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**Regional Planning for The South : #6**  
**Analysis of the Management Situation**

## **REGIONAL ISSUES**

**to be addressed in  
the regional plan**

**United States  
Department of  
Agriculture**

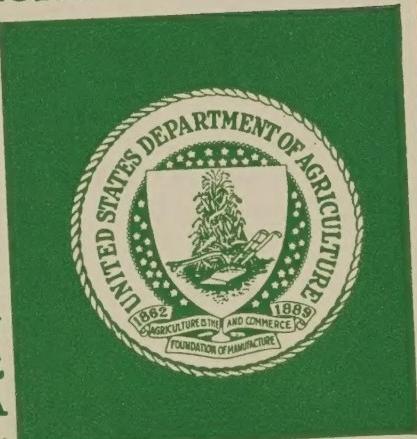
**Forest Service  
Southern Region**

**Southeastern Area**

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## Regional Issues

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## Regional Planning for The South Analysis of the Management Situation

### EXECUTIVE SUMMARY

regional issues to be addressed  
in the regional plan

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## EXECUTIVE SUMMARY

## Regional Issues to be Addressed in the Region Plan

**I. Introduction**

Potential issues, concern and resource use opportunities (ICO's) were evaluated as outlined in the Work Plan (Manager's Guide for Regional Planning) as amended. Interdisciplinary teams working with R8 and SA Staff Groups reviewed public comments, forest inputs, other staff suggestions and extensive analysis of RPA alternative data in Round 15 of the R8 data files. In addition, national direction in the 14 national issues was evaluated in considering what could be done to address an ICO within possible adjustments of current management direction at the regional level.

In development of the ICO statements (a detailed analysis of the ICO resulting in a recommended resolution) 3 important considerations were brought forward:

--The RPA Assessment and R8-RPA data as established in Round 15 and modified by the high and low Bound Program is the primary data source to be fundamentally validated through forest planning;

--Resolution of national issues and their policy statements are represented in the RPA Program, therefore, the principles of "tiering" outlined in NEPA regulations apply to development of the Regional Plan. (National issues were incorporated with regional issues to form ICO's with recommended resolutions which will be focal points for development of Regional Plan alternatives.)

--State and Private Forestry program have been established for the planning area through the RPA Program. Resolution of ICO's and subsequent Regional Plan alternatives will demonstrate programmatic linkages between the "proposed action" (an alternative in the Regional Plan) and existing direction established for SA by the Chief's Office.

**II. Summary of ICO's to be further addressed in the Regional Plan****A. Timber Production**

To respond to a projected timber supply shortfall, while continuing to maintain the ability to provide multiple goods and services and protect or enhance forest ecosystems in the South, where and how should the Forest Service influence timber production on National Forest System (NFS) lands, industry lands, and non-industrial private forest lands.

**1. Results of Analysis**

RPA projections indicate a 1.2 billion cubic feet deficit in wood fiber production in the South by 1990. The majority of private lands in the South are in non-industrial private ownership. While the challenge of increased wood production

would appear to be on these lands, both national forest lands and industrial forest lands may alleviate the shortfall. RPA identifies national forests as the source of 2.3 percent of the South's timber harvest in 2000. Increased annual yields will require greater investments in such practices as reforestation, TSI, fertilization, etc. Also, laws and regulations affecting the determination of lands that are available for timber production must be carefully administered.

The Forest Service can affect the supply of wood products in the South not only by the administration of timber harvesting on national forests, but by assisting states through State and Private Forestry programs, and by supporting and conducting research in improved timber growth, harvest, and utilization.

The issues raised by the public focused on where and how the Forest Service should produce timber. Questions include: the levels of timber production including utilization and harvesting techniques; appropriate silvicultural management systems; regeneration techniques; and the effects of Forest Service decisions on local and regional economics.

## 2. Potential for Forest Service Resolution

Options to address timber supply include management activities to:

- a. Increase production on industry and non-industrial private forest lands while maintaining current production on NFS lands;
- b. Increase production on all landownership classes;
- c. Increase softwood production on all landownership classes, as RPA has stated that the major demand and shortfall will be for softwoods;
- d. Take no action on national forests to increase supplies from private sources.

### Policy:

--When artificial regeneration is determined to be the most appropriate reforestation method, genetically superior stock will be used (PA).

--National forests, through coordination with S&PF state programs, will adjust timber offering to promote private supplies where appropriate (PA).

--Present policies regarding softwood products from NFS land allocation decisions and through multiple-use constraints will be carefully considered as part of land management planning (N).

--Regarding management of hardwoods, Forest Service Research and State and Private Forestry programs will provide more detailed resource information. Hardwood programs will remain at present levels until increases can be justified on a cost-effective basis (N).

**Objective:**

--Determine regeneration cutting methods that should be used for each silvicultural system by 1985 (PA).

--To increase wood supplies, the Region will set yield targets for national forests to promote private supplies in specific areas where appropriate. (PA).

--For S&PF programs in reforestation on nonindustrial private forest lands, regeneration cutting, backlog acres, intensive stocking control and management will determine the degree of support required as defined by the RPA Program (PA).

--(refer to appropriate targets in the timber element)

**Management Standard and Guideline:**

--Establish silvicultural standards per 36CFR 219.1-16 requirements (PA).

--Establish standards and guidelines for defining the management intensity and utilization standards to be used in determining harvest level per 36CFR 219.1-16 requirements (PA).

--Commensurate with national policy, Forest Service programs will provide for increased investments in intensive timber management, with priority on better sites, to the extent that these opportunities are cost effective (N).

--Where efficient, National Forest System timber sale policies will be modified to encourage increased utilization (N).

**B. Energy Production and Conservation**

What part of the national energy supply can and should come from forests and rangelands of the South?

**1. Results of Analysis**

The need for additional energy in the nation affects the national forests in the South in three ways:

- a. The potential for mineral exploration and development on forest lands

Forest Service lands are available for exploration and development. Gas, oil and coal are estimated to exist on southern national forest lands in substantial amounts. Available supplies are directly related to exploration and extraction technology as well as market conditions.

b. The potential for the use of the forest as a renewable resource

Wood fiber is becoming increasingly important as an energy resource on southern national forests. This has created management problems, as fuelwood has not been a significant resource of the forests until recently. The Region is presently meeting demand for free fuelwood. Direction has been given to the Region to play a major role in supplying fuelwood to the public in the eastern United States.

c. The conservation of energy in Forest Service management and planning activities

Energy conservation is practiced by the Forest Service in all areas. Energy allotments for both existing and new buildings have been reduced; all buildings will be retrofitted on a cost-effective basis by January 1, 1990; and total energy consumption of all general operations (equipment, travel, work standards, etc.) will be reduced by 20 percent as a long-term goal. The Forest Service is incorporating new energy-saving technology in the design and construction of facilities as well as in demonstration projects.

## 2. Potential for Forest Service Resolution

The Forest Service can expand its capability to facilitate mineral exploration on national forest lands by streamlining cooperative agreements with State and Federal agencies, and by speeding lease issuance and the environmental review process. Research is being conducted on the development and the application of mining and reclamation on NFS lands.

By altering administrative and management policies, the southern national forests can increase fuelwood availability by 300 percent, using planned site preparation, TSI, and/or other cultural practices. Technological transfer to State and Private Forestry and research information can also be used to increase the use of renewable energy resources by private families and industries.

Whenever feasible and economically justified, renewable energy use can be favored over non-renewable energy use in Forest Service management and practices. Energy conservation and the use of renewable energy sources will be promoted.

**Policy:**

--Production

The Forest Service will expand its capabilities of facilitating minerals explorations on National Forest System lands. The review process of withdrawn lands will be accelerated through land management planning. The agency will continue research programs to develop and apply methods for mining and reclamation, to provide technical assistance, and to cooperate with other federal, state, and private land managers (N).

The national forests will maximize land available for exploration, consistent with multiple use objectives in the Forest Land Management Plan (PA).

--Use of renewable resources

Whenever feasible and economically justified for the plan or project period, favor renewable over nonrenewable energy use (PA).

Forest Service programs will be expanded beyond current activities, where economically efficient, to contribute to the goal of increasing the use of wood for energy (N).

**Objective:**

--(refer to targets in minerals element)

--Complete within 1 year of issuance of Regional Plan a comprehensive management review of fuelwood use on national forests and implement selected recommendations (PA).

**Management Standard and Guideline:**

--Lease application for production of energy resources will be processed as soon as possible within applicable standards. This is usually within 12 weeks of receipt of application (PA).

--Cooperative arrangements between federal agencies will be reviewed and revised by agreement where necessary to streamline mineral lease processing (PA).

**C. Livestock Grazing on Forests and Rangelands**

Should livestock grazing be permitted on National Forest System lands, and if so, what should be the relationship between grazing and other resource uses?

1. Results of Analysis

The Southern Region currently produces double the amount of forage required to meet demand for permitted AUMs of grazing. Additional grazing opportunities can be provided to meet increased demand that could result from increases in feed grain prices. Range management can provide a wide range of outputs in addition to grazing and can be used to meet other management goals, such as vegetative manipulation. As a result, values attributable to the range resource may be difficult to ascertain. Grazing can cause conflicts with other resource uses--particularly with timber and wildlife interests--and increased use of the range resource could heighten these conflicts.

## 2. Potential for Forest Service Resolution

Increased use of the range resource can be implemented, based upon a determination of the capability of the area to support use without degradation of other resources. The decision can include cost/benefit analysis to identify the value of the range resource, identification of areas suitable for grazing, and the use of research studies to provide valid information that can resolve the issues of conflict and capability.

### Policy:

--The Forest Service range program will emphasize improvement and maintenance of land productivity for grazing and other resource uses consistent with production efficiency and market value of forage. Emphasis will be placed upon research, development, and application of livestock grazing programs on National Forest System lands. These programs should serve to encourage livestock production on private, forested ranges (N).

### Objective:

(refer to targets in Range element)

### Management Standard and Guideline:

--On national forests, if a range program is selected during Forest Land Management planning, persons trained in range management will provide analysis and recommend program levels during the planning process (PA).

--In areas with significant low income and minority dependency, forage resources would continue to contribute to the quality of life (N).

## D. Access to the National Forests

To most satisfactorily use the national forests, how much and what kinds of access (roads and trails) should the Forest Service provide?

## 1. Results of Analysis

The Region's transportation network is currently being expanded at the approximate rate of 500 miles of road and 30 miles of trail each year. The transportation network has reached the size where reconstruction and management of existing facilities are more important than construction of new facilities. The majority of new construction will occur on the local network rather than the arterial-collector network, which is for the most part complete in the Region.

Issues and concerns related to road densities and standards are primarily aimed at the local road system where design and management options are more flexible.

## 2. Potential for Forest Service Resolution

Access needs will be determined after consideration of resource assessments, resource management objectives, and the amount of traffic that will be generated as a result of the decision. Both existing and proposed access must be considered. Densities will depend on topography and resource use and will be determined by individual forests. Resolution of access issues and concerns is most adequately made at the forest level. Standards for road classification, design and management will be established at regional and national levels; as will transportation analysis techniques.

A thorough and effective analysis of access needs and road management options, with emphasis on minimizing road densities and adverse resource impacts, should satisfy most public concerns. The Region will coordinate the access program's outputs and costs with the Region's resource program through RPA targets.

### Policy:

--Existing policy is adequate and need not be revised to address access (PA).

### Objective:

--Targets in facilities element for activities and costs will be consistent with resource targets at the Regional level and established through analysis of resource outputs in the Regional Plan (PA).

### Management Standard and Guideline:

--The "Manual Network Analysis Method" for transportation estimates will be the primary analysis method (PA).

--Through Forest Land Management Planning, road type distribution in miles will be 2 to 8% arterial, 10% to 20% collector and 72% to 88% local unless local conditions require a documented variation (PA).

--Forest Supervisors will use all available authorities to open or close access upon completion of an appropriate analysis (PA).

## E. Recreation Role on National Forests

How much and what kinds of forest recreation should the Forest Service support in the South and what share should be provided by national forests?

### 1. Results of Analysis

There is a substantial increased demand for recreation opportunities in the South on a diminishing forest land base. Many forested lands are being converted to urban developments, causing more demand for use of the national forests. As both the variety of opportunities provided and numbers of users have increased, conflicts have arisen among users and between users and management activities on the forests.

In addition, the energy situation has resulted in heavy visitation on areas located near urban population centers. These areas may reach saturation levels in the near future. There is a need to adequately assess the carrying capacity of these lands so that neither the physical environment nor the recreational experience is degraded. Maximum stress points must be identified.

National forest management has emphasized dispersed recreation use, and as demand for this type of use is steadily growing, it is not likely that management direction will change. Private interests provide the majority of recreation facilities in this region, and these developments outside the national forest boundaries are encouraged where supply is not adequate. This benefits local economics and complements the multiple-use philosophy of the Forest Service.

The Forest Service is charged with identifying and protecting cultural resources on the national forests. The need to survey lands before management activities begin may cause delays in land exchange, etc. In addition, there is a need to educate the public with regard to the prohibition of the collection of artifacts.

### 2. Potential for Forest Service Resolution

Data must be collected and analyzed to identify "need" rather than "demand" for recreation opportunities. There must be an analysis of trends--taking into account demographic statistics and economic data that could change current user patterns.

There must be extensive cooperation and coordination among government agencies and the private sector in determining the need for additional recreational facilities in the region. The Forest Service will play a greater role in dispersed recreation because of present user trends and forest management direction. A recreation resource land classification system must be developed that is adaptable to state, local and private planning efforts.

Maximum stress points on the forests must be identified and their carrying capacities analyzed. Cultural resource surveys should be incorporated into the planning process at an early stage so that management activities are not adversely affected, and the public must be educated as to the importance of the preservation of our national heritage.

**Policy:**

--The Forest Service will continue current recreation policies which emphasize dispersed recreation while continuing to provide developed recreation on National Forest System land. New emphasis will be placed on energy efficiency in recreation use and development by making recreational opportunities on National Forest System lands more accessible, usable, and enjoyable for urban residents(N).

**Objective:**

--(refer to targets in Recreation element)

--Establish a cooperative program with HCRS to identify appropriate Agency share of regional recreation supply and demand (needs) by January 1983 (PA).

**Management Standard and Guideline:**

--Forest Supervisors will continue to apply Regional standards for management of the Appalachian Trail (PA).

**F. Wildlife and Fish Diversity**

In order to provide diverse wildlife and fish populations and to enhance threatened and endangered species habitat, how should the Forest Service manage the national forests or provide support to private forest landowners?

**1. Results of Analysis**

Demand for all forms of wildlife is increasing in the Southern Region, and supply is generally adequate. With respect to big game, many forests are at carrying capacity and while hunter success is good, hunting quality is threatened. While there is no information regarding the national forests' role in supply

and demand of wildlife in the Southeast, opportunities exist to improve habitats, increase protection measures and identify carrying capacities. This will improve supply and increase quality for users of the resource.

These factors must be considered:

- a. Coordination with management of other resources.
  - b. Better game law enforcement through Forest Service assistance to the states.
  - c. Specific habitat improvements needed to reach production objectives.
  - d. Improvement of threatened and endangered species habitat.
  - e. Protection of special habitats (den trees, overmature timber, etc.).
  - f. Resolution of conflicts between roads and wildlife.
2. Potential for Forest Service Resolution
- a. Better coordination with other resources, particularly timber, to enhance habitats and encourage species diversity.
  - b. Consideration of soil and watershed management and recreation use to protect both species and habitats.
  - c. Identification of direct habitat improvements needed by monitoring certain management indicator species.
  - d. Implementation of an aggressive wildlife habitat improvement program.
  - e. Full cooperation with state agencies regarding protection measures and proper harvesting.

**Policy:**

--The Forest Service will increase emphasis on wildlife and fish in the management of the National Forest System. Other forest landowners will be encouraged to practice multiple-use management. The agency will encourage the consideration of wildlife in developing state comprehensive forestry plans (N).

**Objective:**

--(Refer to targets in Wildlife & Fish element)

**Management Standard and Guideline:**

--Activities required to manage access will be maintained by the Forest Supervisor, see Access ICO (PA).

--Continue to follow direction in FSH 2609.23R, Wildlife Habitat Management Handbook (PA).

## G. National Forest Land

Is the acreage and location of national forests in the South now adequate to meet public needs? What should be the priority for national forest land acquisition or exchange?

### 1. Results of Analysis

Approximately half the lands within national forest boundaries in the Southern Region are not in federal ownership. This is the poorest landownership pattern in the National Forest System. To minimize administration costs and efficiently provide goods and services, the Region has been actively consolidating federal ownership, primarily through exchange and purchase from willing sellers. Most future acquisition will be within existing purchase units. The supply of these lands exceeds the acreage proposed for purchase in all RPA alternatives. Supply may be limited, however, if quality is a consideration. These lands with particularly desirable characteristics may not be available, especially if acquisition is based on a willing buyer-willing seller basis. There appears to be ample opportunity throughout the Region to acquire lands from willing sellers.

Watershed protection is a major factor in Forest Service land acquisition policy. It is estimated that within the Region there are approximately 900,000 acres of private lands that directly affect the management of national forest lands and directly contribute to poor watershed conditions.

Approximately 20 percent of these lands are estimated to be in poor hydrologic condition.

Public issues include concern for reduced tax revenues because of public ownership, land acquisition and management policies, and the cost-effectiveness of national forest programs and production of goods and services.

### 2. Potential for Forest Service Resolution

Particular emphasis will be placed on acquiring lands for specific purposes:

a. In areas designated by Congress--National Scenic Trails, Eastern Wilderness, the Mount Rogers NRA, Wild and Scenic Rivers.

b. In sensitive areas--lands near urban areas, lands needed to protect rare and endangered species, lands near major transportation facilities.

- c. To accomplish timber goals--increased production of high-quality sawtimber, acquisition of pine-producing sites or better hardwood-producing sites.
- d. To protect watersheds.
- e. To provide recreation opportunities.

**Policy:**

--Land ownership adjustment (all activities associated with change in ownership or rights) will be made only after establishment of consistency with Region 8 priority standards (PA).

**Objective:**

--Annual land adjustment targets for forests will be established within R-8 priority standards (PA).

--The Regional Plan will establish priority standards for land adjustment (PA).

**Management Standard and Guideline:**

--Resource or support annual targets which are affected by land adjustment will be consistent with forest targets in the lands element (PA).

**H. Water**

If additional water or improved water quality is needed, what should the Forest Service do to encourage this production or improvement?

**1. Results of Analysis**

While water quantities in the South are generally adequate, specific areas suffer flooding, shortfalls and impaired water quality. Concern centers on municipal and single family water supplies; sediment production from silvicultural practices; and past and present land uses that cause pollution and flood problems.

**2. Potential for Forest Service Resolution**

Water resource problems in southern forests and rangelands are more institutional and organizational than technical. Coordination of federal and state water maintenance and improvement programs offers the greatest potential for Forest Service resolution of the problems. The water resource on the national forests can be administered more closely; damaged lands can be rehabilitated; ownership

patterns within national forests can be readjusted; and specific water resource research projects can be conducted to provide current, valid information regarding the impacts of various land use practices on the water resource and the economic effects of federal versus non-federal land use.

Policy:

--Establish through inventory and analysis in the Forest Land Management Plan, water management objectives for identified drainages in each basin coded in FSM 2570, R-8 Supplement No. 28 (PA).

Objective:

--Participate with the Chief's office in establishing national water management policy and direction for implementation by State and Private Forestry (PA).

--Forest targets in water meeting quality goals (Y77) will be established by coordinating effects and opportunities in other forest targets (PA).

Management Standard and Guideline:

--Before national forest funds are expended to evaluate or improve water resource benefits, all available institutional or organizational methods to accomplish the objective will be evaluated and results documented in Forest Plans and annual budget proposals (PA).

--Special uses for domestic water supplies will only be issued after all available alternatives to secure safe, treated drinking water are explored (PA).

I. Visual Quality

The Forest Service systematically promotes scenic values on national forests. Should this effort be changed, and if so, how and where?

1. Results of Analysis

Visual quality in the Region has improved steadily over the years as barren, eroded lands have been reclaimed through reforestation programs. Supply of high quality landscapes in the South is decreasing, however, because of increased populations and corollary increased demand, and a decreasing land base due to land conversion activities. The potential to increase supplies of high quality landscapes lies primarily with large industrial forestry landowners. As this is not a commodity resource, however,

it may be difficult for such companies to consider the protection or enhancement of the visual resource in their plans.

The Forest Service's ability to increase supply is limited, as it manages only 3.4 percent of southern forest lands. However, studies show that "scenic beauty" is the reason most often cited for visiting national forests and the Southern Region has an adequate capability to produce visual resource outputs with 5.5 percent of all lands having the potential to provide top quality scenery.

## 2. Potential for Forest Service Resolution

The Forest Service Visual Management System classifies land areas by sensitivity levels that indicate the degree of landscape alteration that will be acceptable to the public. This is a systematic method for evaluating, qualifying and quantifying wildland scenic values that is made as a preliminary professional recommendation for management of the visual resource before other resource outputs are assessed.

Problems in maintaining the visual resource are primarily concerned with commodity production, especially timber, as it requires landscape alterations. If the present supply of visual quality is to be maintained, there will be some reduction in timber harvesting at any one point and time, although availability of harvest will remain the same. The VMS tends to increase visual quality levels where the lands are viewed by increasing numbers of visitors and allows reduction of visual quality in areas seldom viewed so that road and trail locations play an important part in determining visual quality objectives.

### Policy:

--The Forest Service will continue to systematically promote scenic values and encourage recognition of the visual resource in State and Private Forestry actions (PA).

--The visual resource should be managed in the national forests, subject to appropriate reduction in visual quality objectives in selected areas as necessary to accommodate other resource management with a minimum of conflict (PA).

### Management Standard and Guideline

--Limit reduction of visual quality to areas inventoried at a visual quality level "modification" or "maximum modification" whenever possible (PA).

### III. Summary of ICO's not to be further addressed in the Regional Plan.

#### A. Protection

How much and what kind of protection is needed to produce the South's share of goods and services from forest lands and rural areas while maintaining environmental values, protecting endangered species, personal and public property, and human life?

##### 1. Results of Analysis

Protection efforts include fire protection, pest control, and law enforcement; all of which potentially increase resource outputs.

Man-caused fires are the primary concern in this Region, and most of these are incendiary fires. Fire suppression techniques emphasize the use of specialized equipment and human resource program manpower. Fuel management consists of the reduction of natural hazards, with prescribed burning being the preferred method of accomplishing this. The Prescribed Fire Program (about 1/2 million acres per year) has had a significant effect on resource protection. In the Southern Region, fire protection has been about 85 percent effective in meeting protection goals. Analysis indicates that the program is 10-15 percent below the desired level of least cost plus net damages. This level of protection will be inadequate in the future because of higher resource values and increased potential for fire damage due to additional development near forested areas. It is anticipated that there will be constraints on prescribed burning in the future because of air quality and environmental concerns and/or political or policy decisions.

Mortality due to insects and disease represents about 17 percent of the timber harvested in the South each year. In addition to protecting timber, however, seed orchards, nurseries, and recreation sites must also be protected.

Law enforcement problems in the South have increased as populations have increased. The Southern Region is more heavily populated than any other Forest Service Region, and the even and wide distribution of people throughout the Region add to the protection problem.

##### 2. Potential for Forest Service Resolution

If prescribed burning is constrained, the result will be: more resource damage (acres burned, more smoke, higher intensity fires resulting in increased soil damage); increased threat to structures; and higher costs and dangers to the fire program and its personnel.

Pest management programs must be strengthened, using "Integrated Pest Management"--the most effective combination of pesticides, mechanical treatment, cultural management, and biological control.

The degree of adequate protection that is required could best be resolved by an economic analysis of protection programs to determine the most cost effective service to be supplied. Methods to be used and intensity of protection would be established by the analysis.

### 3. Recommendation

Protection was dropped as an issue primarily because:

- a. Public response to the issue favored continuation of protection programs (Fire, FIDM and Law Enforcement).
- b. Current policy and direction are adequate to carry out management activities.

Funding is inadequate to meet state requests for fire suppression on state forests and private lands but the question of how much protection is enough is yet to be answered. A study is needed to determine the level of fire protection to keep costs commensurate with the value of the resource protected.

## B. Wilderness

How much of an enduring wilderness resource is needed on national forest lands and how should the Forest Service respond to the demands on the resource?

### 1. Results of Analysis

There are 150,000 acres of wilderness on national forest lands in the Southern Region. This is one percent of the total national forest acreage in the Region. National forest wilderness areas comprise 8 percent of total wilderness in the regional planning area--the remainder is administered by the National Park Service and the Fish and Wildlife Service. Based on regional increases over the past five years, wilderness use in the Southern Region will increase by four percent annually, or at twice the predicted national average.

National forest lands will have to support the majority of increased demand for wilderness in the South, even though other agencies may allocate additional lands to wilderness. Assuming a four percent increase in wilderness use, the recreation carrying capacity of

southern national forest wilderness will be exceeded in about ten years. Wilderness in this region, however, can support more use per acre than wilderness in drier climates because of fast vegetative recovery rates. Management techniques can prevent overuse and may increase carrying capacities to alleviate some demand.

The heaviest recreation use of wilderness is in the Mountain Sub-Region, close to large population centers with good access. More wilderness will be needed in this area in ten years. Use trends indicate that other sub-regions containing wilderness will not exceed their capacities during this time. Region-wide, if all Forest Service areas recommended for wilderness and further planning during RARE II are designated as wilderness, the RPA acreage goals for wilderness would be met. Designation of those areas recommended for wilderness will not meet anticipated demand after 1985.

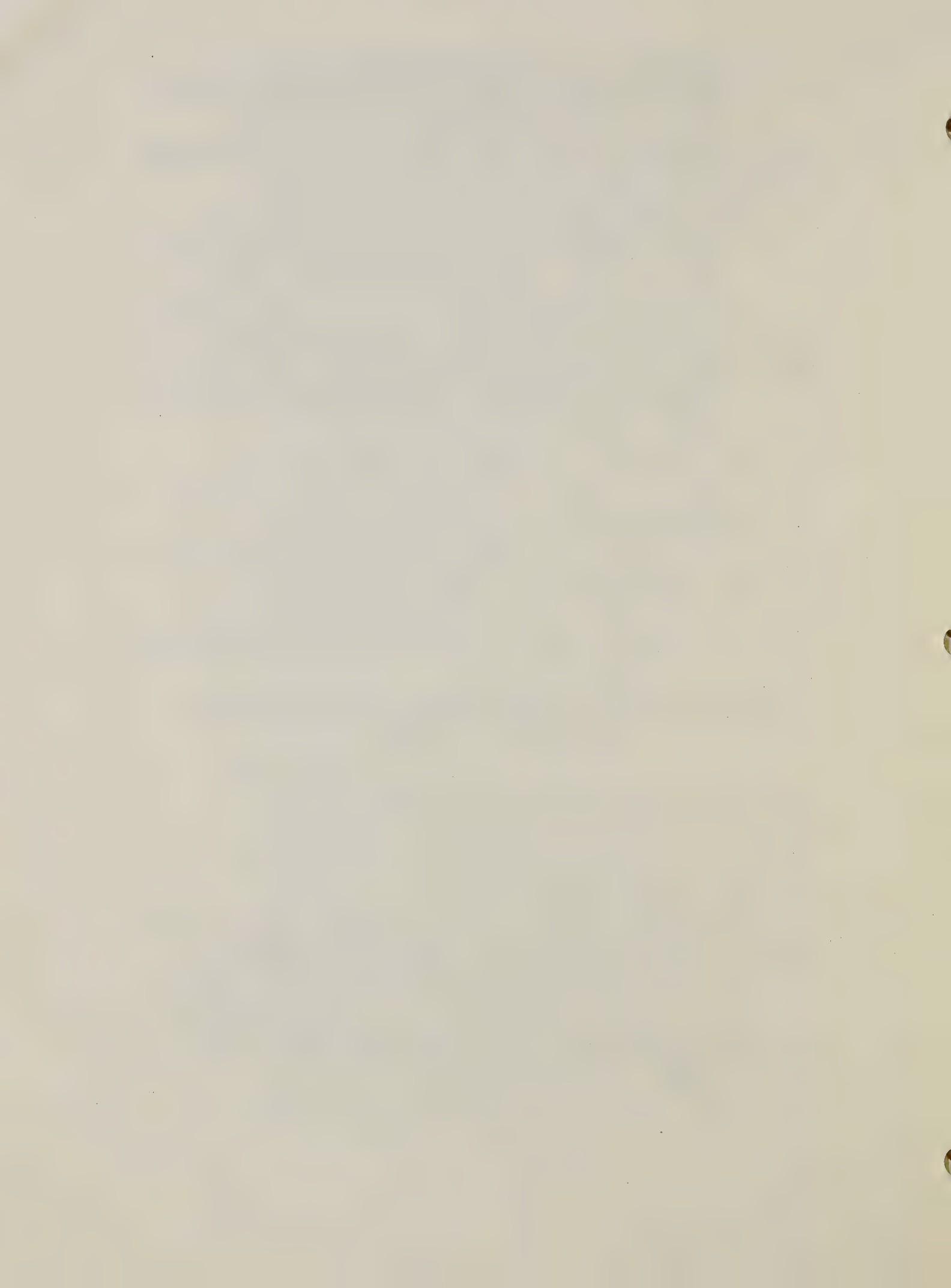
## 2. Potential for Forest Service Resolution

To balance supply and demand for wilderness, the Forest Service can:

- a. Increase the wilderness acres on national forest or other federal or state lands;
- b. Manage non-wilderness lands so that they will provide an area to which some of the wilderness demand can be shifted;
- c. Purchase additional roadless lands;
- d. Lower wilderness standards;
- e. Provide something less than true wilderness conditions for those who need less; and
- f. Have the private sector allocate roadless lands.

## 3. Recommendation

Wilderness management and facets of the "wilderness issue" have been addressed in the RARE II and RPA Program. Resolution in the Regional Plan will take place through distribution of existing targets. No change in management direction from the regional level is anticipated during implementation of the plan. For these reasons wilderness is not considered as a regional issue in the planning context.







## ICO STATEMENTS

Abstract -- The following 11 issues, concerns and opportunity analyses (ICO statements as documented in the R-8 Manager's Guide to Regional Planning - Workplan) have been drafted by interdisciplinary staff groups made up of R8 and SA personnel and compiled by the ID Team. Nine of the 11 ICO statements are recommended for continued analysis in the Regional Plan. All ICO statements have been integrated into the AMS. The nine ICO statements will be focal points for analysis per NFMA regulations.

## TIMBER PRODUCTION

**Issue:** Timber Production - To respond to a projected timber supply shortfall, while continuing to maintain the ability to provide multiple goals and services and protect or enhance forest ecosystems in the South, where and how should the Forest Service influence timber production on National Forest System (NFS) lands, industry lands, and non-industrial private forest (NIPF) lands.

### I. Overview and Forest Service Role and Influence

The 1980 Forest and Rangeland Renewable Resources Assessment (RPA) projects significant increases in national demand for wood fiber with a deficit of 2.2 billion cubic feet as early as 1990 without substantial price increases. The supply/demand deficit is projected to increase to a level of 3.9 billion cubic feet by the year 2030. The South's projected share indicates 1.2 and 2.5 billion cubic foot deficits for these same periods. The challenge for increased production, based on the land ownership patterns in the South, appears to be on NIPF lands; however, NFS lands as well as industrial forest lands will continue to occupy key roles in satisfying future demand for wood fiber. The key question remains how best to obtain the projected outputs of wood fiber from the commercial forest base while insuring continued environment and amenity protection and an optimum mix of goods and services of other forest resources.

The Forest Service can affect the supply of wood products in the South through administration of timber harvest on national forests by assisting states through State and Private Forestry programs; and by supporting and conducting research in improved timber growth, harvest, and utilization. The RPA program identifies national forests as the source of 2.3 percent of the South's timber harvest in the year 2000. This would require increased annual yields, which in turn would require greater investments in forestry practices such as reforestation, use of genetically improved seedlings, TSI, control of insects and diseases through integrated pest management, forest fertilization, use of fire to improve tree growth, improved harvest practices, and increased tree utilization from harvest to market. Also, laws and regulations that affect land available for timber production will have to be carefully administered to prevent unnecessary reductions in harvest levels. These will affect supply. Management must also provide positive benefits to water, air, and life forms associated with forest and range lands. NIPF lands offer the best opportunities for increased production of wood and wood products to overcome the projected shortfall. However, one of the major tasks is to change the disincentives for investment in private forest management to incentives.

The timber ICO focus is on the need to initiate, now practices that will result in increasing timber supplies for projected needs 50 to 100 years in the future. The real questions of "where" and "how" have many facets dealing both with NFS lands and NIPF lands. The issues raised by the public focused on the facets of where and how should the Forest Service produce timber on NFS lands.

A variety of considerations must be evaluated in answering these basic questions.

#### Levels of timber production

What levels of timber production can be supplied while continuing protection of the environment? What shoud be the guidance on:

- development of wood production on NIPF lands;
- degree of utilization of wood and wood products;
- timber harvesting methods used?

#### Silvicultural System of Management

Consistent with multiple use-sustained yield principles and with the RPA objective of increasing timber production, what silvicultural system, even-age or uneven-age (including the regeneration cutting methods for each system) should be used for forest types.

#### Regeneration of Forest

What should be guidance on forest regeneration in the areas of:

- stand re-establishment methods;
- providing plant and animal diversity, including old growth;
- species/site suitability;
- utilizing genetically superior stock?

#### Local industries/communities

What is the economic importance of forests to the South and to what extent should the Forest Service programs support local industries and/or communities?

### II. South's potential for resolution

A proper perspective on how the Forest Service can influence the timber ICO involves the references under V. that provide statistics on the relationships of NFS forest land and other forest lands. These data describe a picture of the Forest Service's role in supply and demand.

In addition, the RPA program influences the ICO through the objectives of increasing timber harvest on NIPF and NFS lands, carefully considering environmental concerns, and providing for increased investments in intensive timber management to the extent that these are cost effective.

### III. Potential for Forest Service Resolution

Each of the following options would require different levels of funding and varied inputs, differing among national forests. In each, it would be assumed that actions would be cost effective, protect and enhance forest ecosystems, and comply with existing laws.

#### OPTION 1

Establish direction for timber management activities that would increase production from NIPF and industry lands to meet the projected shortfall. Maintain current levels of production on NFS lands; adjust timber offerings on national forests to promote private supply.

On NIPF and industry lands, the emphasis would be placed on stimulating significant:

- expansion of private timber supply and application of improved management practices; and
- improvements in the use of wood fiber.

This would be accomplished through greatly increased financial and technical assistance to emphasize proper sale, harvest, and processing techniques and through major increases in assistance for reforestation and timber stand improvements.

On NFS lands, the emphasis would be to:

- sustain current levels of timber supply;
- maintain current level applications of silvicultural practices with emphasis on sawtimber; and
- continue programs to efficiently use available wood fiber from harvested and treated areas.

This would be accomplished through continuing regeneration harvesting on mature and understocked timber stands and intermediate harvesting in young growth stands to achieve stocking control. On highly productive lands, prompt reforestation with genetically improved growing stock, stocking level, and species control would be done.

OPTION 2

Establish direction for timber management activities that would increase production from NFS lands, NIPF lands and industry lands to meet the projected shortfall.

On NIPF and industry lands, the emphasis would be the same as that in Number 1 above.

On NFS lands, the emphasis would be to:

--broaden the application of silvicultural practices on land under management;

--make full use of available wood fiber from harvested and treated areas; and

--increase timber supply as markets develop at a moderate rate.

The major emphasis would be to initiate in this decade those silvicultural practices that will result in significantly expanded supplies in subsequent decades. These practices would consist of maintaining strict stocking level and species control, prompt reforestation with genetically improved growing stock, and fertilizing stands where the response is known to be desirable and cost effective.

Significant increases in timber supply during this decade could come from additional markets and/or the increased economic feasibility of harvesting material that is presently unmerchantable.

OPTION 3 is abandoned as a good possibility for the South

RPA identifies the major demand and shortfall is for softwoods, and that the softwood sawtimber supply in the South is projected to increase from the present 18.0 to 27.3 billion board feet in 2030.

This represents the South's sectional share increasing from 45 to 51 percent. This option would establish direction for timber management activities that would increase the production of softwoods from NFS, NIPF and industry lands.

On NIPF and industry lands, the emphasis would be to:

--adequately regenerate all future harvested pine stands;

--adequately regenerate to pine all acres which in the past regenerated naturally to slow growing or poorly formed hardwoods and those hardwood acres that are better suited (biologically) to pine;

OPTION 4

Take no actions on national forests to increase supplies from private sources.

IV. Anticipated Resolution

Policy:

--when artificial regeneration is determined to be the most appropriate reforestation method, genetically superior stock will be used (PA).

--National forests, through coordination with S&PF state programs, will adjust timber offering to promote private supplies where appropriate (PA).

--Present policies regarding softwood products from NFS land allocation decisions and through multiple-use constraints will be carefully considered as part of land management planning (N).

--Regarding management of hardwoods, Forest Service Research and State and Private Forestry programs will provide more detailed resource information. Hardwood programs will remain at present levels until increases can be justified on a cost-effective basis (N).

Objective:

--Determine regeneration cutting methods that should be used for each silvicultural system by 1985 (PA).

--To increase wood supplies, the Region will set yield targets for national forests to promote private supplies in specific areas where appropriate. (PA).

--For S&PF programs in reforestation on nonindustrial private forest lands, regeneration cutting, backlog acres, intensive stocking control and management will determine the degree of support required as defined by the RPA Program (PA).

--(refer to appropriate targets in the timber element)

Management Standard and Guideline:

--Establish silvicultural standards per 36CFR 219.1-16 requirements (PA).

--Establish standards and guidelines for defining the management intensity and utilization standards to be used in determining harvest level per 36CFR 219.1-16 requirements (PA).

--Commensurate with national policy, Forest Service programs will provide for increased investments in intensive timber management, with priority on better sites, to the extent that these opportunities are cost effective (N).

--Where efficient, National Forest System timber sale policies will be modified to encourage increased utilization (N).

V. References

"An Analysis of the Timber Situation in the United States 1952-2030", USDA Forest Service, Review Draft

"Assessment of the Forest and Rangeland Situation in the United States", USDA Forest Service, FS 345, January 1980

"The 1980 Report to Congress on the Nation's Renewable Resources", USDA Forest Service, FS 347, July 1980.





## ENERGY PRODUCTION AND CONSERVATION

Issue: Energy - What part of the national energy supply can and should come from forest and rangelands of the South?

### I. OVERVIEW

The forest lands of the South contribute to the energy supply available to the nation. This supply could be increased by using more renewable energy sources such as wood, wind, water, and sunlight, by intensifying development of non-renewable mineral resources of coal, oil, and gas and by conserving energy used in Forest Service activities. The use and development of any energy supply must be weighed against the cost to produce the energy and the effects on other forest resources now and in the future. Conservation of energy supplies must be weighed against the effects of providing forest and rangeland goods and services.

The energy ICO can be addressed by:

- focusing on energy production on national forests;
- exploring the use of renewable energy sources, and;
- conservation of energy supplies.

#### A. Nonrenewable energy production from national forest lands

##### 1. Forest Service Role

Resolution of the RPA minerals issue states that, "The Forest Service will expand its capabilities to facilitate mineral exploration on National Forest System lands. Many of the mineral resources beneath national forests in Region 8 are energy related. S&PF programs in the South can influence development and application of mining and reclamation on National Forest System lands. The Forest Service is maintaining an evaluation research effort at Berea, Kentucky.

Present estimates by the U.S. Geological Survey and R-8 minerals staff project 10 billion short tons of coal, 1 billion barrels of oil and 12 trillion cubic feet of natural gas may underly R-8 National Forests. These estimates, 10% of the estimated energy minerals supply in the South are speculative and must be substantiated by detailed exploration. Available supplies are directly related to exploration and extraction technology as well as market conditions.

National Forest System lands of the South have historically supplied energy from oil, gas and coal. The Department of Interior's Bureau of Land Management is the custodian of mineral resources for federal lands. The Forest Service nevertheless has the authority in many cases to influence the issuance or denial of a lease by the Bureau of Land Management based on the results of environmental analyses.

## 2. Potential for Forest Service Resolution

The Forest Service can influence production of energy by making land available for exploration (see Table I), by streamlining cooperative arrangements with Federal agencies, USGS, BLM, OSM, BM and state regulatory authorities and by speeding the lease issuance and environmental review process.

Since the Forest Service cannot control the applications for energy development (the market and technology dictate demand), it is very difficult to estimate the number of leases or the amount of energy that can be produced as a result of a specific program action. Nevertheless, program estimates have been made and carried forward in RPA alternatives.

## B. Renewable Energy Production

### 1. Forest Service Role

The Forest Service has placed considerable emphasis on the use of renewable energy resource to replace nonrenewable uses. Resolution of an RPA issue, wood fiber as an energy source, states that the Forest Service will expand programs beyond current activities where economically efficient to contribute to the goal of increasing the use of wood for energy. Other energy sources, such as wind, low-level hydroelectric and solar offer potential to supply limited or supplemental energy in rural environments. Several agencies are investigating development of renewable energy resources.

## 2. Forest Service Role in Supply/Demand

The Forest Service can directly influence the supply and, through permit or pricing, influence the demand for fuelwood from national forests. Indirectly, through S&PF programs and research efforts the Forest Service can affect the amount and types of fuelwood or wood products that families or industries utilize for energy.

Since 1975 the issuance of free use fuelwood permits has increased dramatically:

FY	permits issued
75	21,800
76	24,000
77	36,200
78	61,100
79	76,400

Even if each permittee used only 2 cords of wood, the volume in FY 1979 represents 76.4 MMBF. Presently, there is no accounting of the administrative or resource management activities required to adequately manage the use of federal fuelwood for private use. This situation has led to some undesirable situations:

--The quality of administration is lower throughout all of the timber and other resource programs.

--In our Piedmont and Coastal Plains the hardwood component is essentially a minor consideration. The public's demand for fuelwood has caused continued trespass and violations in key wildlife areas.

--Unauthorized cutting is occurring, particularly on weekends and evenings and during inclement weather

--There is inadequate inspection of all activities due to the manpower concentration on the Fuelwood Program.

--The weaker economy has resulted in less cutting on the regular timber sales, thus less potential fuelwood areas are available. Therefore, new areas must be sought to satisfy the demand.

--It takes considerably more time to produce fuelwood for Free Use than it does for an equal volume in normal sales.

--Districts are actually getting behind on new timber sales preparation because of the siphoning of funds and manpower that should be designated to the 031 program.

In a recent Energy meeting at Madison, Wisconsin, Warren Doolittle, Deputy Assistant Chief for Research, said Region 8 must play a major role in supplying fuelwood to the public in the eastern United States. At the present time, nearly 9,000 persondays are expended annually with over 12 percent of the forest work force engaged in preparation and/or administration. Our typical forest spends 7 percent of their O31 funds and nearly 4 percent of their mileage limits on administering fuelwood use.

Presently, the Region is meeting the demand for free fuelwood. If the administrative obstacle can be overcome, the national forests in Region 8 can increase fuelwood availability by 300 percent through planned site preparation, TSI and/or other cultural practices.

The Forest Service is presently meeting the demands for other renewable energy resources on national forests and private lands. Additional energy supplies from these sources can be provided through existing programs. The total energy available from these sources is estimated to be a very small part of our national energy needs and important only in local areas with unique physical characteristics.

### 3. Potentials for Forest Service Resolution

The Forest Service through technological transfer in S&PF and research results can increase the use of renewable energy resources by private families and industries.

Within national forests in the Region, the fuelwood demand can be more readily met if certain actions are taken. These actions are:

- Development of an MIH code for administration of fuelwood use;
- Discontinuation of free use permits for fuelwood;
- establishment of a fee structure for fuelwood commensurate with cost of administration, wood volumes used and possible improvement in forest conditions resulting from fuelwood harvest;
- Consider fuelwood as a forest product and account volumes with other wood products sold by the government;
- Target fuelwood production and report accomplishment.

4. Anticipated Resolution for Production and Use of  
Renewable and Nonrenewable Energy

Policy:

--Production

The Forest Service will expand its capabilities of facilitating minerals explorations on National Forest System lands. The review process of withdrawn lands will be accelerated through land management planning. The agency will continue research programs to develop and apply methods for mining and reclamation, to provide technical assistance, and to cooperate with other federal, state, and private land managers (N).

The national forests will maximize land available for exploration, consistent with multiple use objectives in the Forest Land Management Plan (PA).

--Use of renewable resources

Whenever feasible and economically justified for the plan or project period, favor renewable over nonrenewable energy use (PA).

**Objective:**

--(refer to targets in minerals element)

--Complete within 1 year of issuance of Regional Plan a comprehensive management review of fuelwood use on national forests and implement selected recommendations (PA).

**Management Standard and Guideline:**

--Lease application for production of energy resources will be processed as soon as possible within applicable standards. This is usually within 12 weeks of receipt of application (PA).

--Cooperative arrangements between federal agencies will be reviewed and revised by agreement where necessary to streamline mineral lease processing (PA).

Forest Service programs will be expanded beyond current activities where economically efficient to contribute to goal of increasing the use of wood for energy (N).

**Objective:**

--(Refer to targets in minerals element)

--Complete within 1 year of issuance of Regional Plan a comprehensive management review of fuelwood use on national forests and implement selected recommendations (R).

**Management Standard and Guideline:**

--Lease application for production of energy resources will be processed as soon as possible within applicable standards. This is usually within 12 weeks of receipt of application (R).

--Cooperative arrangements between federal agencies will be reviewed and revised by agreement where necessary to streamline lease processing (R).

**C. Conservation of Energy Supplies**

**1. Forest Service Role**

Energy conservation efforts and goals for the Forest Service are identified and guided by requirements of the Energy Policy and Conservation Act of 1975, National Energy Conservation Policy Act of 1978, (P.L. 95-619), Executive Order 12003, and numerous Departmental and Forest Service directives.

To provide a basis for uniformity and consistency among the various agencies of the Department of Agriculture, the USDA Energy Management Plan was developed. This plan prescribes the methods and procedures for implementing legislative direction.

The broad objective of the Forest Service in energy conservation is to conserve more energy each year by improving efficiency in the conduct of programs and operation of Forest Service facilities, and by improving production and use efficiencies in wood products.

To address the role of the Forest Service with regards to energy conservation, the following three broad categories will be discussed:

- Building
  - General Operations
    - Vehicle Transportation and Equipment
    - Travel
    - Resource and Support Activities
  - Demonstration Programs

#### Buildings

The role of the Forest Service shall be to satisfy the requirements of P.L. 95-619 and E.O. 12003 as follows:

- for the total of all existing buildings, reduce by 20% the average annual energy use per gross square foot of floor area in 1985 as compared to 1975.

- for all new buildings, reduce by 45% the average annual energy use per gross square foot of floor area in 1985 as compared to 1975.

- complete life cycle cost effective retrofits of all existing heated or cooled buildings with over 1000 square feet of floor area by January 1, 1990.

The Chief has also adopted a policy that the retrofit program will cover all heated or cooled buildings regardless of floor area.

#### General Operations

The role of the Forest Service shall be to satisfy the requirements of the Energy Policy and Conservation Act of 1975 and other short-and long-term mandates as they are forwarded.

At the present time, our long-term goal, in response to the Energy Policy and Conservation Act requirement, is to reduce by 20% the total energy consumption. Equipment, travel and work standards, methods and procedures are included as "general operation".

#### Demonstration Programs

The role of the Forest Service shall be to satisfy the requirements as follows:

P.L. 95-619 also states that it is policy for the federal government to further develop, demonstrate and promote the use of energy conservation, solar heating and cooling and other renewable energy sources in federal buildings.

## POTENTIAL FOR RESOLUTION

### Buildings

To identify and prioritize those retrofit projects which offer the best savings to investment ratio, a process of preliminary energy audits and facility survey and analysis must be accomplished.

The preliminary energy audit is the determination of the energy consumption characteristics of an existing building, including the type, size, category and its major energy using systems. This audit is currently on-going and should be complete by December 1980.

The facility survey is intended to be a study of each building to identify potential retrofit measures to improve energy efficiency. As these various measures are identified, an analysis procedure shall be used to display the action(s) which presents the most energy saving for the least amount of investment.

Facility surveys and analysis are currently underway in R-8 and will be completed by December 1981. Although the magnitude of the total retrofit program and cost will not be fully known until the facility survey and analysis are concluded, it is anticipated that no major problems will be encountered in meeting the 1985 goal of 20% reduction in energy consumption. Basic retrofit actions such as weatherstripping and caulking may be planned without in-depth survey and analysis. These relatively inexpensive retrofit measures should go far toward satisfying the 1985 reduction requirement.

The intent of the total retrofit program will be to perform those measures which show good savings to investment ratios for all existing buildings, including those having less than 1000 square feet of floor area. Completion of this task will require an unknown amount of funding.

R-8's FY 81 budget has \$672,000 to complete all surveys plus to do some retrofitting. The FY 82 budget proposal is for \$781,000 for retrofits. The FY 82 figure is a rough estimate, not based on completed surveys. The first opportunity for R-8 to provide accurate budget input will be about April, 1982 for the FY 84 program.

It is assumed and anticipated that the average annual program of work through 1990, based on 1980 dollars, will not substantially change from the present. Should annual program costs be unexpectedly high during this period, retrofitting measures for buildings having less than 1000 square feet will be deferred beyond the January 1, 1990 target date.

For the past several years, Region 8 has promoted energy conservation in the design of new buildings. As a result of the emphasis toward energy efficient design, all new buildings attain the 45% energy reduction currently. The 1985 goal will be accomplished without any major design modifications. Designing for energy efficiency is already standard procedure and will continue to reflect new concepts and technological improvements as they become known.

Building construction costs, (reflect increases of less than 10%) to achieve the 45% energy use reductions. This additional cost, although not affecting our energy conservation goals, may result in adverse budgetary impacts on available funding for achieving planned new and replacement facility construction.

Based on the tentative FY 81 program funding, approximately 33% of the total FA&O construction program is earmarked for energy conservation (surveys and minor retrofitting projects). Funding for energy conservation does not appear to be in addition to that required to meet scheduled FA&O construction and replacement needs. Assuming funding for energy conservation is provided in this same manner, impacts may be anticipated and reflected in deferred replacement schedules, increased operation and maintenance requirements, and extended service life. Other Forest Service program areas may be similarly affected.

#### General Operations

Recent efforts to assure targeted energy conservation goals are met has resulted in numerous and often conflicting short-term directions, policies, and tracking procedures.

To achieve overall federal goals for reduction of energy consumption, targets have been established for both use and fuel consumption.

The curtailment of use to assure that there is reduced fuel consumption will be successful, but at the expense of the loss of potential for transportation for accomplishment of outputs and travel.

Numerous short-term impacts have been documented. Some are listed below:

- 50% to 75% reduction of travel for training reported on some units;
- cancelled management reviews;
- civil right meetings reduced 50%;
- cancelled major conference and professional meeting attendance;
- reduction of attendees at meetings and training sessions;
- curtailment or denial of personal vehicle use;
- reduced frequency of recreation cleanup;
- reduced recreation administration;
- reduced law enforcement patrols;
- less contact with the public;
- reduced fire prevention activities;
- reduced contract administration and inspection trips;
- delayed prescription reviews;

#### Vehicle Transportation and Equipment

The requirement to reduce miles driven (curtailment of use) has had an impact on both the quantity and quality of work accomplished. We cannot specifically measure to what extent this has occurred or whether the losses are recoverable.

Since the intent of the law and the various orders and policies is to reduce fuel consumption while continuing to produce the targeted levels goods and services at the required quality levels, we believe curtailed use must be replaced by fuel consumption objectives.

We believe that beginning in FY 1981, fuel reduction targets will be established based on FY 1979 usage. We do not know what the reduction requirement will be; however, we believe that for purposes of this discussion, the overall goal will be to satisfy the 20% reduction by 1985.

Assuming an approximate growth of 7% in size of fleet needed to support activities in 1985, a 12% increase in mileage, and that through fleet replacement and new acquisitions the fuel efficiency of the fleet will increase, we predict an approximate 25% reduction in fuel usage by 1985.

Our predictions are based on Forest Service owned vehicles (rolling stock). Other usage - i.e., rentals, POV, other gasoline and diesel, and aircraft use represents about 20% of the total use. We can predict at least 20% overall reduction of fuel use in this category.

We cannot predict short-term mandates which will require curtailment of use, travel restrictions, or other means to achieve short-term fuel use reductions. We must assume however, that these restrictions will be imposed by the Chief, Department or President if needed to satisfy overall conservation goals.

The Presidential memorandum requiring agencies to reduce use by 5% may continue to affect our overall methods of work. This mandate was not considered in the above assessment of the 1985 position. If we must continue under this constraint, we believe the reported fuel reduction will increase due to not allowing a 12% growth in vehicle/equipment use (mileage).

#### Travel

There have been numerous short-term and permanent travel restrictions issued since the energy crisis began in 1974. Virtually all have attempted to control employee travel through either budgetary or mileage constraints. Many have been directed at specific areas, such as use of privately owned vehicles.

A Departmental directive is currently in effect requiring budget reduction in expenditures for use of common carriers, commercial car rental, etc. The FY 79 and 80 target was to achieve a 20% reduction in this area.

We must assume that this or some other constraint will continue to exist and must adjust our methods of producing required goods and services accordingly. Many of the impacts listed above (training, conferences, meetings, recruitment, public awareness, etc.) may be directly associated with travel and vehicle use restrictions.

#### Resource and Support Activities

Historically, resource and support activities within the Forest Service have, and are, becoming more energy intensive. Activities which, in the past, began as labor and animal dependent, such as timber harvesting and road construction, have been transferred by technology to machine operations. Cheap and easily obtainable sources of non-renewable fuels played the major role in bringing us to where we are today.

Today we are faced with dwindling supplies and reserves of non-renewable fuel. The cost of acquiring this fuel has risen astronomically over the past decade. This cost has been reflected in the cost of producing goods and services in the Forest Service and in the nation and world as a whole.

The role of the Forest Service must be to develop and promulgate methods, procedures and techniques to reduce the dependence on non-renewable energy sources in our day-to-day operations.

We have discussed our direction and objectives in this regard as they apply to buildings and transportation and travel. We must investigate and develop more energy efficient methods of conducting the producing-type activities as well. Some areas which show the best potential are:

--Provide recreation opportunities closer to population centers.

--Develop more energy efficient work specifications for our force account work, as well as contractors, cooperators and permittees.

--Promote and refine renewable energy technology application to all Forest Service activities and operations.

--Develop and apply work unit energy conversion factors in an "energy effectiveness" criteria for Forest Service activities.

--Encourage and promote energy conservation practices of employees, both on and off the job. Provide motivation, training and recognition of employees in this area.

#### Demonstration Programs

The National Energy Conservation Policy Act (P.L.95-619) continues programs that are designed to demonstrate the application of renewable source energy to federal facilities and to stimulate the growth of a commercially viable and competitive industry.

Opportunities exist for the Forest Service to develop, utilize, demonstrate, and promulgate findings in such areas as energy from wood, solar heating and cooling, small hydro, photoelectric and wind power projects.

Region 8 has, during the last two years, participated in this program by accomplishing projects which utilize renewable energy sources in our internal operations. Some are listed below.

Berea Office Lab which has provisions for both solar and wood fuel to meet heating and cooling needs.

Several buildings in North Carolina that use multi-fuel furnaces for heating. The furnaces burn either wood or oil.

Several wood burning stove installations in dwellings.

Solar water heating at a toilet and bathhouse in Alabama.

A solar attic dwelling at Schenck Civilian Conservation Center.

A solar air collector system designed for the New Castle Ranger Station, Jefferson NF.

Passive solar design concepts incorporated into several buildings, particularly the Mt. Ida Office and Berea Office-Lab.

Solar hot water heating for a new dormitory at Jacobs Creek.

Photovoltaic ventilation of vault toilets on all forests.

Photovoltaic power for two radio communication projects and one recreation water pumping system.

A mini-hydropower demonstration project to generate electricity for Juniper Springs Recreation area in Florida - currently under design.

This activity deserves to be continued. As new technology, methods, and applications are found, the Forest Service must react to them. The opportunity to expand this program exists.

Expansion of the R-8 effort in photovoltaics, small hydro power and wind power could possibly be funded by special grants from the Department of Energy (they have funded all of R-8's photovoltaic projects thus far). To the extent

that grant money is not available regular Forest source appropriations would have to be used.

#### ANTICIPATED RESOLUTION

##### Buildings

Future new construction will continue to be energy efficient with only minor cost increases, based on current dollars, over present prices. These minor increases can be handled without difficulty in the normal budgeting process.

Because the retrofit of existing buildings over 1000 square feet of floor area is mandated by law and because the anticipated annual retrofit cost for all buildings won't be significantly greater than the FY 81 program, all buildings will be funded for retrofit by 1990. Between now and 1990, the FA&O construction program may be funded at a lower level.

##### General Operations

Future constraints on fuel consumption, travel, and overall usage of vehicles and equipment must be recognized and anticipated. The overall goal of 20% reduction in fuel economy in general operations can be accomplished by 1985, although short-term mandates may result in impacts to all accomplishments of providing goods and services at any given time during this period. Given our assumptions and predictions, Region 8 should exceed the overall 1985 goal for fuel reduction in operations.

##### Demonstration Programs

A small number of photovoltaic, mini-hydropower, solar and other renewable energy projects will be undertaken each year from either Department of Energy grant funds or regular appropriated funds.

##### Conclusion

Present policies, objectives and management standards appear to be adequate and can be fulfilled without a change in management direction.

TABLE I

ACREAGE IN NATIONAL FORESTS OF  
REGION 8 AS OF SEPT. 30, 1979

National Forest	Net Acreage	Wilderness	70, 71 National Wild & Scenic River Ac.	75 Nat. Game Refuges & Wildlife Pre.	Available For Exp. & Development	% Available
NFs in Alabama						
Bankhead	179,365	12,646	0	0	166,719	93
Conecuh	83,956	0	0	0	83,956	100
Talladega	368,957	0	0	0	368,957	100
Tuskegee	10,757	0	0	0	10,757	100
Total	<u>643,035</u>	<u>12,646</u>	<u>0</u>	<u>0</u>	<u>630,389</u>	<u>98</u>
Under Lease or Application:	446,723 Acres					
NFs in Arkansas						
Ouachita	1,579,115	14,344	0	0	1,461,531	93
Ozark	1,116,014	10,242	0	0	1,063,609	95
St. Francis	20,946	0	0	0	20,946	100
Total	<u>2,716,075</u>	<u>24,586</u>	<u>0</u>	<u>0</u>	<u>2,546,086</u>	<u>94</u>
Under Lease or Application:	1,544,251 Acres					
NFs in Florida						
Apalachicola	588,867	23,432	0	0	565,435	96
Ocala	378,178	0	0	0	298,443	79
Osceola	157,230	0	0	0	157,230	100
Total	<u>1,124,275</u>	<u>23,432</u>	<u>0</u>	<u>0</u>	<u>79,735</u>	<u>91</u>
Under Lease or Application:	879,344 Acres					

T. E I

ACREAGE IN NATIONAL FORESTS OF  
REGION 8 AS OF SEPT. 30, 1979

National Forest	Net Acreage	Wilderness	70, 71 National Wild & Scenic River Ac.	75 Nat. Game Refuges & Wildlife Pre.	Available For Exp. & Development	% Available
NFs in Georgia						
Chattahoochee	744,811	32,488	8,270	24,670	679,383	91
Oconee	105,813	0	0	0	105,813	100
Total	<u>850,624</u>	<u>32,488</u>	<u>8,270</u>	<u>24,670</u>	<u>785,196</u>	<u>92</u>
Under Lease or Application:	150,000 Acres					
NFs in Kentucky						
Daniel Boone	525,982	4,756	0	0	521,226	99
Redbird PU	138,579	0	0	0	138,579	100
Jefferson (See Virginia)						
Total	664,561	4,756	0	0	659,805	99
Under Lease or Application:	144,923 Acres					
NFs in Louisiana						
Kisatchie	<u>597,639</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>76,229</u>	<u>87</u>
Total	<u>597,639</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>76,229</u>	<u>87</u>
Under Lease or Application:	356,432 Acres					
NFs in Mississippi						
Piney Woods	<u>521,410</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>521,410</u>	<u>521,410</u>
Total	<u>521,410</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>521,410</u>	<u>521,410</u>

TABLE I

**ACREAGE IN NATIONAL FORESTS OF  
REGION 8 AS OF SEPT. 30, 1979**

T<sub>1</sub> S<sub>1</sub> E<sub>1</sub>

ACREAGE IN NATIONAL FORESTS OF  
REGION 8 AS OF SEPT. 30, 1979

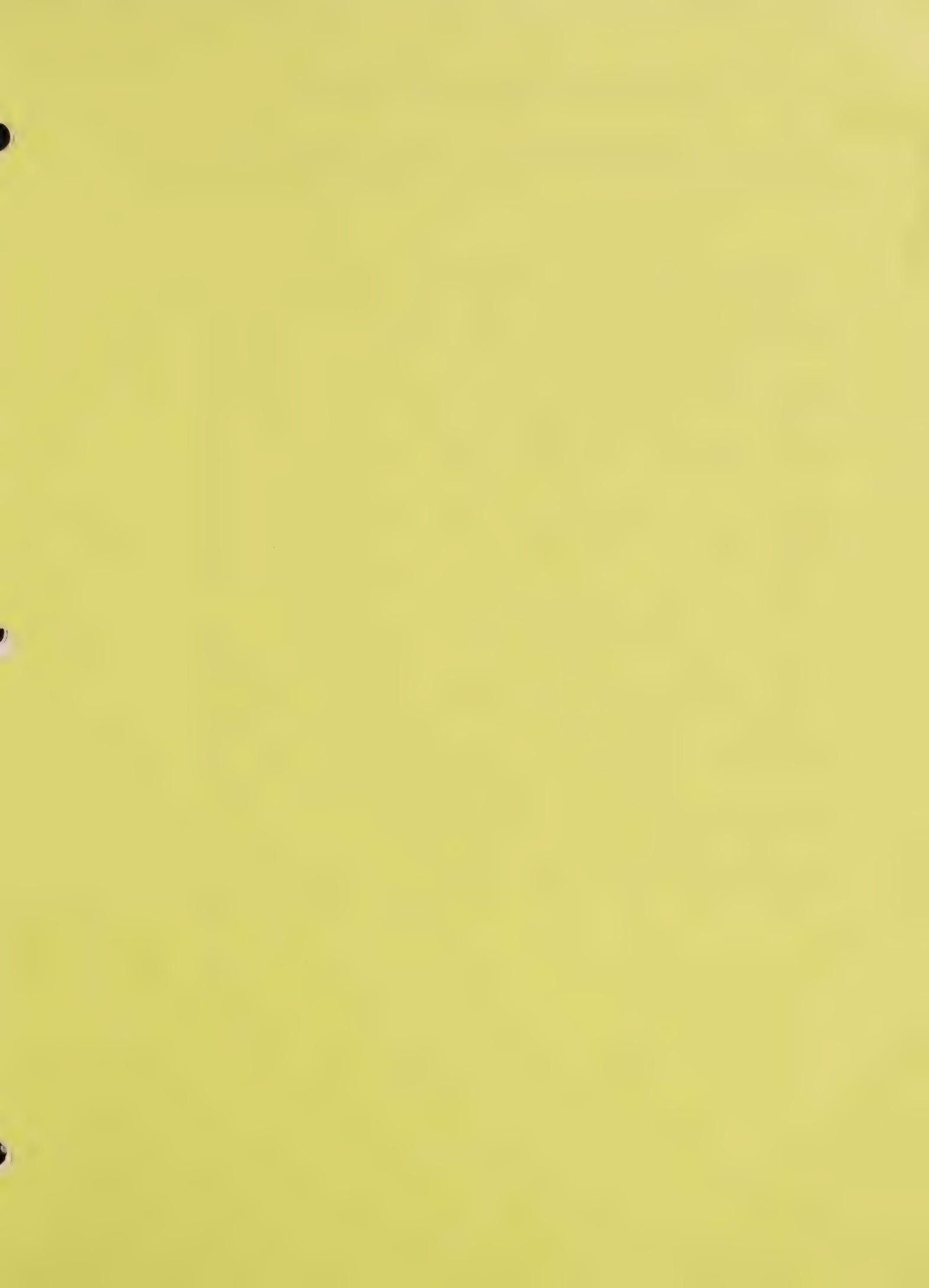
National Forest	Net Acreage	Wilderness	Wild & Scenic River Ac.	National	Nat. Game Refuges & Wildlife Pre.	For Exp. & Development	% Available
<hr/>							
NFs in Oklahoma Ouachita (See Arkansas)				70, 71	75		
NFs in Puerto Rico Caribbean	25,846	0		0	0	25,846	100
NFs in South Carolina							
Francis Marion	249,821	0		0	50,600	199,221	80
Sumter	358,296	2,809	2,809	6,379	0	349,108	97
Total	608,117			6,379	50,600	548,329	90
Under Lease or Application:	0 Acres						
NFs in Tennessee Cherokee	621,531	8,120		0	10,900	602,511	97
Under Lease or Application:	214,481 Acres						
NFs in Texas							
Angelina	155,618	0		0	0	155,618	100
Davy Crockett	161,477	0		0	0	161,477	100
Sabine	188,218	0		0	0	188,218	100
Sam Houston	159,052	0		0	0	159,052	100
Total	664,365			0	0	664,365	100
Under Lease or Application:	222,305 Acres						

TABLE I

ACREAGE IN NATIONAL FORESTS OF  
REGION 8 AS OF SEPT. 30, 1979

National Forest	Net Acreage	Wilderness	70, 71 National Wild & Scenic River Ac.	75 Nat. Game Refuges & Wildlife Pre.	Available For Exp. & Development	% Available
NFs in Virginia						
G. Washington	1,045,556	8,703	0	31,725	1,005,128	96
Jefferson	686,335	0	0	0	686,335	100
Total	1,731,890	8,703	0	31,725	1,691,462	
Under Lease or Application:	883,861 Acres					

NFs in West Virginia  
(See Virginia)





## LIVESTOCK GRAZING ON FORESTS AND RANGELANDS

Issue: Range - Should livestock grazing be permitted on National Forest System lands, and if so, what should be the relationship between grazing and other resource uses?

### I. OVERVIEW

A. Livestock have been grazing on lands in the South since Ponce de Leon swam cattle ashore in 1521. They have had free access to national forest land from the beginning of the national forests. The Secretary of Agriculture has authority to develop, administer, and protect the range resources, and permit and regulate grazing use on all National Forest System lands and on other lands under Forest Service control. This authority stems mainly from the following acts: (1) The Organic Act of June 4, 1897 (30 Stat. 35, as amended; 76 Stat. 1157; 16 U.S.C. 551); (2) the Granger-Thye Act of April 24, 1950 (16 U.S.C. 580); (3) the Multiple Use-Sustained Yield Act of June 12, 1960 (74 Stat. 215; 16 U.S.C. 528-531); (4) Title III, Bankhead-Jones Farm Tenant Act of July 22, 1937 (50 Stat. 525, as amended; 78 Stat. 745; 7 U.S.C. 1010-1012); (5) the National Environmental Policy Act of January 1, 1970 (83 Stat. 852, as amended; 42 U.S.C. 4321, 4331-4335, 4341-4347); (6) the Federal Land Policy and Management Act of October 21, 1976 (Title IV, Pub. L 94-579, 90 Stat. 2772, 43 U.S.C. 1751-1753). Regulations issued by the Secretary pursuant to these statutes have the force and effect of law. The first grazing regulations were issued in 1905 for the Forest Reserves to protect and conserve all forest reserve land through proper care and improvement of land adapted for grazing. Very little control of grazing was accomplished on national forest lands in the South until the 1960's. By 1969 most of the trespass livestock had been removed and most of the feral hogs had been eliminated. The Forest Service administers 12,500,117 acres in the Southern states, of which 2,083,185 acres is considered suitable for grazing. This acreage has supported from 24,874 (1979) head to 43,690 (1975) head for 6 months or longer. Most of the livestock graze for a period of 6 months, with some up to a full year. The number of Animal Unit Month's ranges from 205,918 (1979) to 264,690 (1975).

(An Animal Unit Month is considered one mature cow grazing for one month. The factor would be 1.00. A cow and calf would be considered a factor of 1.32 Animal Unit Months.) The Region currently produces double the amount of forage required to meet the demand for permitted AUM's of grazing. There is a need for range improvements to provide better control and management of the range resource.

In rangeland management there is a wide spectrum of outputs. Rangeland can be manipulated for various uses--minerals, forage use, hunting, recreation and others. Grazing itself is also a management tool, as well as a use. Grazing can be used to manipulate vegetation. Various management goals such as improving watershed conditions, improving and maintaining vegetation, controlling certain plant species, and other goals can be better achieved through managed livestock grazing than under complete protection from grazing. Improvements installed for one use may enhance another use to the betterment of both, such as water developments which can benefit many uses.

Comparison of values both monetary (goods, services, economic benefits) and intangible (visual, happiness, pleasure, pride, etc.), have long been used in determining whether a project is to be attempted, or which project is the most desirable. The difficulty comes in determining a common value for a specific time and a specific area. The values that a hunter may place upon hunting a deer compared against the values a livestock owner may place upon a place for his cow and calf to graze are influenced by many variables.

The hunter's values could be very high if the area was the only one available within his means, or very low if he could afford to travel within a wide area. The livestock owner's values could be very high if the cow and calf were two of very few head, and the income from the few head made up a substantial part of his income, or very low if he had several hundred head of livestock and many places to graze.

Historically the greatest area of conflicts with livestock grazing on national forest land or in timbered areas has been with the timber and wildlife interests. Livestock have been accused of causing excessive damage in regeneration areas by browsing and trampling the newly planted seedlings. Research at the Palustris Experimental Range in Louisiana, and the Alapaha Experimental Range in Georgia, have shown that under proper management damage will not occur in appreciable amounts. However, uncontrolled livestock can and will cause damage. Frequently livestock have been a convenient scapegoat to blame for the failure of a regeneration that may be due to adverse weather conditions, faulty techniques, poor planting stock, or other reasons. State game departments are, in general, opposed to livestock grazing on the national forests or in timbered areas. There is much controversy over the overlap of wildlife (especially deer) and livestock (especially cattle) diets. Research has not shown that there is a definite conflict at the present time. Some research has shown that the overlap is small and occurs in winter and spring on grasses and browse. Currently research is studying the food diets of both livestock and wildlife to determine if there is a definite conflict and when it occurs if there is a conflict.

Grazing on the national forests is usually more costly than grazing on private land due to the remoteness and the many restrictions that are imposed upon a user of the National Forest System lands. This difference is taken care of by a comparison of costs on National Forests with costs on private leased land. The grazing fee that is determined by the costs and the market price index is called the Fair Market Value. The benefits are grazing fees, vegetation management, pounds of red meat, and various other products. The costs are the improvements, management and trade-offs. By running benefit-cost analysis a better balance can be obtained.

#### Conclusions:

The use of the grazing resource should depend upon the capability of the area to support the use without harm to the land resource or to other resources. Management should determine what the capability of the area is and what use can be made of the area. In the case of conflicts between uses, allocations can be made to accommodate portions of the various uses. If the demand is there for a use, it should be encouraged while staying within the capability of the area and in balance with other resource needs. In all cases, the resource use should be under management to prevent damage or overuse.

The comparison of different values in determining a project's worth can take many forms. The more information that is available about the different types of values will increase the probability that the right decision is made.

B. Areas of national forest land considered unsuitable for grazing will still produce forage for wildlife and erosion control purposes. Unsuitable areas are areas which are not accessible to livestock, or do not have the potential to produce sufficient forage, or cannot be grazed under an attainable system of management without damage to the water, soil, and other resource values.

Conclusions: Areas such as steep slopes, cliffs, rock slides, bays, ponds, erosive areas and hardwood areas should not be grazed by livestock.

## II. FOREST SERVICE ROLE IN THE SUPPLY/DEMAND PICTURE

The South has 323.4 million acres of forest and rangeland of which only 12.5 million or 3.8% is National Forest System lands. Livestock grazing is permitted on approximately 2 million acres of suitable area. Wildlife for the most part use almost all of the 12.5 million acres. Timber is produced on approximately 11.5 million acres. Almost all of the 12.5 million acres is available for recreation, hunting, and visual uses.

Currently, livestock use approximately 217 million Animal Unit Months of forage from forests and rangelands in the South. To increase livestock to their highest potential, more acres could be grazed under increased management intensity. (Issue sub. b.) The demand for Animal Unit Months from forests and rangelands has been very dependent upon feed grain prices. An increase in the price of feed grains or fertilizer will usually stimulate considerable interest in using the forage resources. The 1980 RPA assessment projects 300 million Animal Unit Months for the South in the year 2000 (0.1 percent of this is anticipated to be supplied by national forests).

Conclusion: Presently, national forests and grasslands in the South annually produce 265,000 Animal Unit Months of grazing worth 10.8 million dollars to the economy of the South. The Forest Service can provide additional grazing opportunities on National Forest System lands and can encourage grazing on other lands through the Range Research Program.

### III. SOUTHERN REGION POTENTIAL FOR RESOLUTION

The Forest Service has initiated or participated in various studies to determine the values of livestock grazing, hunting, fishing, bird watching, use of wilderness, water resources, camping, hiking, timber cutting, etc. The values take many forms: Dollars per animal unit month, visitor days, gallons of water produced, dollars per board foot, dollars per ton or cubic yard, etc.

#### Studies:

1. Economic Survey of Wildlife Recreation Executive Summary, National Forest Service, Southern Region Number 8.  
Published by: Environmental Research Group, Georgia State University, Atlanta, Georgia, March 1974
2. Outdoor Recreation Advances in Applications of Economics, Forest Service USDA, General Technical Report WO-2, March 1977.
3. Outdoor Recreation - A Legacy for America, U.S. Department of Interior, Bureau of Outdoor Recreation, December 1973.

Current research will help resolve questions of conflicts between various resources. Education of the public, personnel of wildlife organizations, personnel of state game organizations and personnel of forestry organizations will be required as the disputes are based in strong beliefs.

Conclusion: The current research has great potential to help resolve the issues of conflicts and capability. Education and dissemination of the information will be the key. Determination by the Forest Service of what the public wants will help determine where and how much.

**IV. POTENTIAL FOR FOREST SERVICE RESOLUTION BY RESOURCE ALLOCATION OR MANAGEMENT STANDARD**

Resolution of the issue can be accomplished by initiating one or more of the following options:

- A. Initiate changes in wildlife practices, timber practices and range practices based on research findings related to resource conflicts, tangible values, intangible values and comparison of uses. If conflicts are found to exist between wildlife-range, timber-range, or range-other resources, formulate a system that will provide guidance in choosing alternatives that provide the most reduction in conflict and the best combination of economic, social and biological benefits.
- B. Initiate better systems of information communication to dispense findings of research results, studies of conflicts, studies of tangible values, studies of intangible values and comparisons of use. Better education and better understanding of the resources and their uses will result in better decisions about the uses of the resources and improvement of the resources.
- C. Plan and implement an information and education program about how Congress sets up the regulations concerning the determination of fair market values for fees and how range improvements are planned, financed, installed and maintained.
- D. Adjust range targets, timber targets and wildlife targets if proven necessary by research to minimize conflicts between range-timber, range-wildlife, and range-other resources. In the event where conflicts or competition exist, improve the problem areas with funding from both resources.
- E. Allocate all resource targets to the forests in such a way that each activity will be concentrated on the most cost-effective operations. Where other factors such as economic need or community stability appear to be significant, allow dependent resource operations to continue even though they are not cost-effective but only after thorough examination of alternatives and impacts.

## V. ANTICIPATED RESOLUTION

### Policy:

--The Forest Service range program will emphasize improvement and maintenance of land productivity for grazing and other resource uses consistent with production efficiency and market value of forage. Emphasis will be placed upon research, development, and application of livestock grazing programs on National Forest System lands. These programs should serve to encourage livestock production on private, forested ranges (N).

### Objective:

(refer to targets in Range element)

### Management Standard and Guideline:

--On national forests, if a range program is selected during Forest Land Management planning, persons trained in range management will provide analysis and recommend program levels during the planning process (PA).

--In areas with significant low income and minority dependency, forage resources would continue to contribute to the quality of life (N).

## VI OTHER

### Items considered in the Issue.

- a. How should National Forest System lands be allocated for grazing?
- b. To what degree should National Forest System lands be altered to accommodate livestock grazing?
- c. Should livestock grazing be totally excluded from National Forest System lands or permitted only in specific types?
- d. What should be the relationship between grazing and other resource uses?
- e. On what areas should livestock grazing be excluded?

f. Should increases in livestock use be encouraged, but in balance with other resource needs?

g. How does the value to the economy of an area compare for livestock grazing versus other resource uses?

h. What trade-offs do other resources have to make in favor of livestock use?

i. What can be done to balance the costs of grazing National Forest System lands with the benefits that accrue?

j. What should the relationship be between costs on national forest lands and costs on private lands; should they be equalized and if so, how?



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## ACCESS

Issue: Access - To use the national forests most satisfactorily, how much and what kinds of access (roads and trails) should the Forest Service provide?

### I. OVERVIEW

The National Forest System in the South includes 12.5 million acres of land in federal ownership. Managing this land requires a transportation network whose construction and maintenance results in the largest activity and activity type costs in the Southern Region. In 1980, the total forest road network was 31,000 miles with types ranging from low standard, unsurfaced single lane roads, to double lane paved highways. State and county roads are included in the forest network where they have a significant part in forest access. The trail system is also an important part of the Forest access. In 1980 there are 3,000 miles of trails in the system. As with the road network, trails include a broad variety of uses.

The Region's transportation network is currently being expanded at the approximate rate of 500 miles of road and 30 miles of trail each year.

Road and trail access is very important to the development and use of all forest resources. Hunters, fishermen, campers, sightseers, loggers, miners, and wilderness hikers all have specific access requirements that need to be considered and coordinated. Determining the numbers and kinds of roads and trails that are required to manage the resources and serve public needs is a complex task.

Roads and trails result from the need to move traffic. The amount and type of traffic influences the selection of access facilities. For example, large equipment used to harvest timber may require a wider road than that needed by the sightseer interested in a Forest scene. On the other hand, several hundred daily sightseers may require a double lane road while a few daily log trucks may need only a single lane road.

Road facilities have to be designed to safely handle the size and number of vehicles using the facility. The size of vehicle determines the width and travel lane and the number of vehicles determines how many travel lanes are required. These decisions, based on resource allocations and the use of national forest land, determine the size and extent of the transportation network.

The transportation network can be classified into 3 categories; arterials, collectors and local. These classifications give an indication of the facilities use and design standard.

ARTERIALS comprise the basic access network for administrative and management activities. These facilities serve large land areas and all resource elements. The location and standard are determined to provide maximum mobility and travel efficiency. They are developed and operated for long-term resource management purposes and to provide a constant service. Arterial roads serve through traffic or traffic from a major forest area to a major highway, and are generally two lanes and surfaced.

COLLECTORS serve two or more resource elements, but do not carry sufficient traffic to be considered an arterial. They serve smaller land areas than arterials. Collectors carry traffic from local facilities and connect to arterials. Location and standard are influenced by long term multi-resource service and travel efficiency, and generally will provide a constant service. Collector roads may be two lanes or single lane, and may be surfaced or unsurfaced.

LOCALS serve a single resource element. Some use may be made by other elements but it is usually not significant. Locals connect to collectors and arterials. The location and standard are determined by the specific resource activity rather than by travel efficiency. Greater latitude in design can be allowed on local roads, along with traffic management options, controls and restrictions. Local roads may provide short-term or long term service. Such roads are usually single lane.

The Region's existing transportation network is displayed in Table 1.

TABLE I\*

FOREST	EXISTING ROADS ARTERIAL COLLECTOR LOCAL	(Miles)	EXISTING TRAILS (miles)
Alabama	272	493	1354
Carib	0	12	14
Chat-Oconee	134	312	770
Cherokee	296	296	628
D. Boone	185	1218	937
Florida	161	784	3000
FM&S	44	187	703
GW	12	534	705
Jefferson	0	602	319
Kisatchie	166	384	1678
Miss	179	333	2186
NC	90	318	2297
Ouachita	211	1873	4415
Oz-St. Fr.	203	305	1490
Texas	157	225	495
Total	2110	7876	21041
			8906

\* From R-8 Transportation Information System

The transportation network has reached the size where reconstruction and management of existing facilities have become more significant than construction activities in determining funding levels. This is especially true of the arterial-collector network. The majority of new construction will occur on the local network.

The percentage of the completed arterial-collector (principal) system as compared to the total principal system is shown in Table 2.

TABLE 2

FOREST	ARTERIALS -- COLLECTORS (PERCENT COMPLETE)
Alabama	96
Carib	76
Chat-Oconee	98
Cherokee	81
D. Boone	91
Florida	99
FM&S	95
GW	45
Jefferson	97
Kisatchie	99
Miss	86
NC	87
Ouachita	95
Oz-St. Fr.	96
Texas	98

\* R-8 Transportation Information System

Comments received from the public, for the most part, relate to the size of the road system (density of roads) and the standards of roads within the system. Some stated that there were too many roads; others wanted more roads. A greater variety of road standards was also proposed.

These comments show that most of the public issues deal with the management of the local road system, rather than the principal highway network. This occurs because local roads are more abundant and thus more visible. They are often constructed in more difficult terrain. Locals are constructed into the heart of the forest, which by itself creates issues with some people. These issues are in agreement with management concerns related to the numbers and kinds of access facilities.

The national forest boundaries include about 24.9 million acres. Of this, about 51% is in private or other ownership. The national forest acreage is scattered within the boundaries. This situation creates additional management responsibilities in developing and operating the access network; such as agreements for joint use of facilities with states, counties and private land owners, and the acquisition of rights-of-way. The impact of this work program is a major item to consider. Management decisions related to the arterial-collector system will have an effect on the state and county systems. Table 3 displays the jurisdiction of the road network.

TABLE 3\*

FOREST	ARTERIALS (miles)		COLLECTOR (miles)		LOCALS (miles)	
	State, County & Other	F.S.	State, County & Other	F.S.	State, County & Other	F.S.
Alabama	56	216	52	441	79	1275
Carib	0	0	2	10	0	14
Chat-Oconee	9	125	27	285	23	747
Cherokee	193	103	62	234	12	616
D. Boone	148	37	789	429	321	616
Florida	20	141	38	746	44	2956
FM&S	15	29	50	137	80	623
GW	10	2	2	532	6	699
Jefferson	0	0	8	594	9	310
Kisatchie	75	91	161	223	63	1615
Miss	33	146	17	316	84	2102
NC	5	85	6	312	49	2248
Ouachita	80	131	849	1024	369	4096
Oz-St. Fr.	200	3	192	113	459	1031
Texas	92	65	99	126	46	449
Total	936	1174	2354	5522	1644	19397

\*from R-8 Transportation Information System

#### CONCLUSIONS

For the purpose of evaluation, access is broken into two classes; arterial-collector and local.

**ARTERIALS-COLLECTORS** This is the main traffic carrying part of the access system. Most of these facilities are existing; not necessarily completed to the final standard, but usually in the final location. Heavy traffic use offers less opportunity to manage traffic with limitations, restrictions and closures. States and counties are involved with these facilities, so access decisions will require coordination. Where jurisdiction is other than Forest Service, the number of management options available to land planning is reduced.

**LOCALS** These facilities are located at the source of resource activity. Locals have a primary resource that is being served. Because of smaller traffic volumes, there is greater potential for coordinating design and management options. Traffic controls and facility restrictions can be included with design standards.

Determining how much and what kinds of access to provide will be decided as a part of the evaluation of resource activities. These evaluations will consider all classes of access facilities. It is not anticipated that major revisions will be made to the standards of existing arterials and collectors. The most significant change may be reclassification.

## II. FOREST SERVICE ROLE IN SUPPLY AND DEMAND

Forest Service land use decisions will incorporate decisions on access needs. How much and what kinds of access will be considered and determined during the forest planning efforts. This will be accomplished by identification of resource management objectives and the traffic that would be generated as a result of specific management decisions. It is essential that access be considered with resource assessments.

Road densities will be resolved through the forest planning process. Densities will vary from one land area to another depending on topography and resource use. As a result, specific Region-wide road densities cannot be effectively established. Forests will determine local road densities on individual planning areas.

Standards for road classification, design and management will be established at the National and Regional levels. The application of these standards will be made during forest planning.

Transportation analysis techniques for evaluating corridors and the movement of goods and services will be prescribed at the National and Regional levels.

## III. POTENTIAL FOR RESOLUTION

The coordination of resource activities with the generated traffic will determine how much and what kinds of access are needed. This coordination could occur in four different ways:

1. Allow the existing network with its established standards and capacities to dictate resource decisions and new access needs;
2. Form resource decisions and then develop access to comply with the decisions;
3. Establish management policies that control access, such as no additional construction of facilities, construction of facilities regardless of resource needs, or the closure of all roads to restrict public access; and
4. Make mutually acceptable resource and access decisions with through an interdisciplinary process.

The most feasible resolution is to establish a well coordinated evaluation of resource activities and related access needs. Both existing and proposed access has to be considered. Without question, the existing network will be very influential in the decision-making process. This is particularly true of arterials and collectors. Many of these facilities are well established and cannot be easily changed to reflect major revisions to resource management policies.

Decisions made on the kinds and amount of access will not resolve all issues and concerns. However, most should be satisfied with a thorough and effective analysis of access needs and road management options, with emphasis on minimizing road densities and adverse resource impacts.

#### IV. POTENTIAL FOR FOREST SERVICE RESOLUTION

The national forest's activities will include an assessment of access functional classifications. Both existing and proposed facilities will be considered for arterials, collectors and locals. Although there is no standard mix of functional classifications, the following guidelines can be used to weigh the distribution.

TABLE 4

FUNCTIONAL CLASSIFICATION	GUIDELINES FOR FOREST DEVELOPMENT ROAD NETWORK (Percentage of total mileage)
Arterial	2-8
Collector	10-20
Local	72-88

In the Region, the current distribution of roads is 7% arterial, 28% collector and 65% local. This indicates that the collector system is too large in comparison to local roads. Transportation analysis techniques used during Forest planning should correct this matter or indicate why the proportions are necessary.

Road jurisdiction is another matter to be reviewed to determine a reasonable combination of forest roads and state and county roads. Changes in jurisdiction will require agreements with the appropriate agencies. Changes needed to the standard of a road under another jurisdiction can also be resolved by agreement with the agency.

Resolution of the access issues and concerns is most adequately made at the forest level. Transportation analysis is a component in land and resource planning activities. The role of transportation analysis is:

1. To identify the access system that best meets the requirements for managing and utilizing forest lands and resources;
2. To determine the cost and timing of investments to develop and maintain the system;
3. To provide consideration of user costs;
4. To identify impacts on other jurisdictions and rights-of-ways needs;
5. To identify the interrelationship among: resource needs for transportation, a transportation system to meet these needs, and transportation impacts on resources;
6. To help determine the feasibility of a management practice;
7. To determine energy requirements for the development maintenance, and use of the access network; and
8. To provide guidance and direction for implementing actions.

National and Regional policies are adequate for the activities needed to resolve the access issues and concerns.

The role of the Regional Plan as regards transportation will be to coordinate the access program -- outputs and costs -- with the Region's resource program through RPA targets.

V.

#### ANTICIPATED RESOLUTION

The goal of the road and trail program is to provide transportation facilities that permit efficient protection and management of resources, efficient transportation of Forest products and safe and reliable travel by resource users. The Region is committed to developing, operating and maintaining the transportation facilities to attain this goal and to carry out the resource element activities in RPA. National and Regional policies, standards and guidelines will be included in all transportation analyses and decisions, and in project environmental assessments, and in the implementation of plans. Emphasis will be given to minimizing the adverse environmental effects of all access facilities and to the consideration of energy in the development, operation and use of the transportation network.

National and Regional policies are adequate to resolve access issues and concerns, and to designate access corridors. Analysis techniques for determining the corridors and the capability for moving goods and services, both within the Forest and from population centers and manufacturing areas, are available for Forest use. The selection of analysis methods depends on the complexity of the network. The Manual Network Analysis Method described in Forest Service directives will be the most appropriate for Region 8. However, automated analysis methods, MINCOST and Timber Transport Model, are also available as dictated by the analysis complexity.

Policy:

--Existing policy is adequate and need not be revised to address access (PA).

Objective:

--Targets in facilities element for activities and costs will be consistent with resource targets at the Regional level and established through analysis of resource outputs in the Regional Plan (PA).

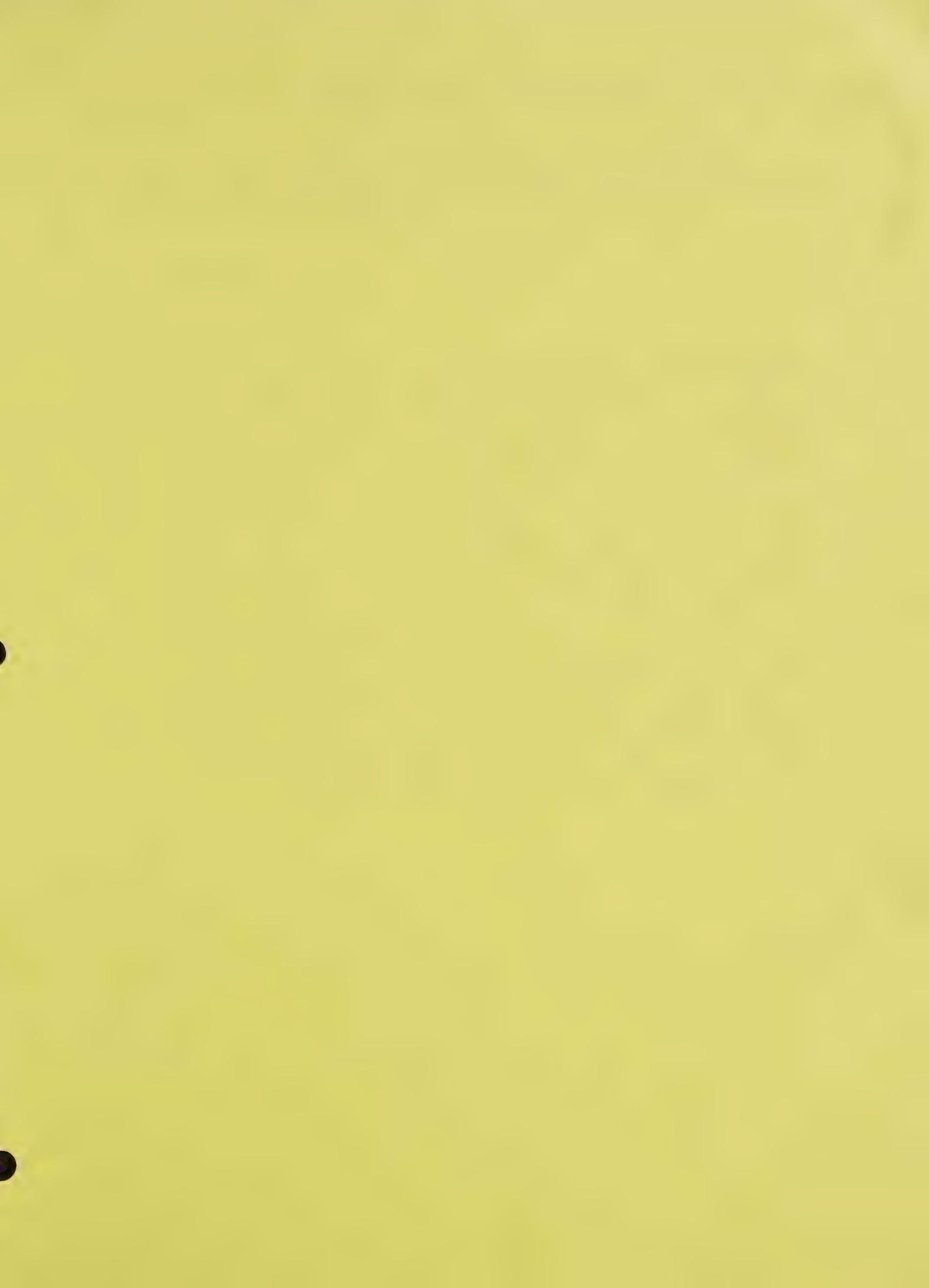
Management Standard and Guideline:

--The "Manual Network Analysis Method" for transportation estimates will be the primary analysis method (PA).

--Through Forest Land Management Planning, road type distribution in miles will be 2 to 8% arterial, 10% to 20% collector and 72% to 88% local unless local conditions require a documented variation (PA).

--Forest Supervisors will use all available authorities to open or close access upon completion of an appropriate analysis (PA).







## RECREATION ROLE ON NATIONAL FORESTS

Issue: Forest Recreation - How much and what kinds of forest recreation should the Forest Service support in the South and what share should be provided by national forests?

### I. Overview

#### A. General Forest

The Southern national forests, with their varied topography and climate, offer extensive and diversified recreation opportunities. In this Region, forests extend from the mountains to the sea. Coastal Plains forests are known for their outstanding water oriented and year round recreation. The Piedmont area, between the mountains and Coastal Plains, offers a full range of developed and dispersed recreation activities. Water impoundments, slow moving rivers and gentle topography have attracted federal, state, and local government investments in a variety of recreation facilities. However, private interests provide the majority share of recreation facilities in this region. The Southern Appalachians are characterized by distinct elevation changes (500-6700 feet), strongly marked seasons and varied weather. Associated recreation activities include: hiking, camping, fishing, floating rivers, and viewing outstanding scenery. Recreation environments vary from wilderness to intensively developed campgrounds and private resorts. Outdoor recreation activities utilize many natural resources. The composition of these resources often dictates the type of recreation facility or opportunity to be managed. Forest resources are managed within a multiple use framework that ensures a continuous supply of diverse recreation opportunity throughout the Southern Region. This diversity is categorized into three identifiable areas. These include: developed recreation, dispersed recreation, and special interest areas.

The following are the acres of opportunity currently available in this Region:

	<u>Acres - 1980</u>
Developed Recreation	9,410
Dispersed Recreation	12,119,000

Special Interest Areas:

Wilderness	149,423
NRA	106,509
Wild and Scenic Rivers	41,509
Scenic Areas	51,115
Botanical	295
Archaeological	186
Geological	25,764
Historical	74
National Rec/Scenic Trails	22,729

Research has brought to our attention how cultural differences and the dynamics of our economy affect the ways people recreate. Increased demands for developed sites (full facility campgrounds) and dispersed opportunities (hiking, white water canoeing, etc.) are the result of social progress. As our population becomes more affluent and leisure oriented, it exerts a tremendous force on the economy and the environment. The recreation industry's response to this social change has been expressed in the expansion of commercial facilities like resorts, and in development of sophisticated recreation equipment. A better educated, better equipped, recreation oriented public has needs that have a major affect on all resources in the national forest.

Private enterprise is encouraged to develop recreation facilities outside the national forest boundary where such developments are not now in adequate supply. Many forested lands in the Southeast are being converted to urban developments. This continuous depletion of forest environment increases the demand for national forest resources. Management direction for the past ten years has primarily emphasized dispersed recreation facilities such as trails, and special interest opportunities as wilderness and scenic areas. With increasing demands for these types of recreation opportunities, it is not likely that management direction will change appreciably.

The increasing number of visitors to national forests seeking both traditional (camping, hunting) and new recreation interests (off-road-vehicle use, river floating), are causing conflicts between users. Incompatibility of experiences is most often cited as the cause. Added to these growing conflicts is our country's recent energy problem. The effects of these factors on recreation use are beginning to be noticed. Conflicts are causing some recreationists to seek alternate activities, and energy shortages are keeping people closer to home.

National forests located near urban areas are experiencing increasingly heavy visitation which may reach saturation levels in the near future. Recreation activities on these forests will need to be reexamined and perhaps reprogrammed.

Dispersed recreation provides more visitor days use than developed types by virtue of the breadth of opportunities available plus its reasonable cost to the visitor. Public interest in seeking relief from the pressures experienced in a technologically oriented society is increasing drastically. Mental health experts have long acknowledged the favorable effects of mountains, sea, and forests on the human psyche. Public needs have obviously expanded beyond the typical forest products and recreation activities situation. The need for escape is growing.

Recreation activities generally associated with dispersed use are low-density types like hunting, fishing, hiking, mountain climbing, white water canoeing, bird watching, and primitive camping. All of these activities are usually managed in conjunction with other resources such as timber production, mining, grazing, and watershed protection.

Diversity is a key word in forest recreation. Almost seasonally the public is finding new interests to pursue in the natural environment. The use of off-road-vehicles, gathering firewood and rock hounding are typical examples of activities growing in popularity.

Dispersed recreation activities are encouraged to the extent that they are consistent with land management objectives and land capability. It is also important to avoid conflicts between resource management activities and recreation users. Road construction and timber management activities require seasonal coordination with hunting and wildlife management activities. Conflicts increase as new activities compete for the same resource base.

#### B. Special Interest Areas

Special interest areas include environments like Wildernesses, National Recreation Areas, Botanical and Geologic Areas, Scenic Areas and Wild and Scenic Rivers. These environments are often delicate, requiring special management considerations. Development is kept to a low intensity to preserve both the quality of experience and the distinctive values of the site.

In special interest areas, the most popular outdoor recreation activities include: hiking, mountain climbing, white water boating, floating, canoeing, fishing, hunting, horseback riding, sightseeing, photography, and scientific study. A substantial percentage of dispersed recreation opportunity is supplied by these areas.

The RARE II inventory, National Natural Landmarks Program and proposals for Wild and Scenic Rivers have increased public awareness of the complex nature of managing public lands in trust. Public involvement in the Wilderness issue alone has done more for environmental education than any formal programs available to date.

Whether developed, dispersed or special interest areas, recreation opportunities must not be viewed as single agency issues. Coordination between government agencies and the private sector is essential if duplication of facilities is to be avoided. Perhaps more important than coordination is multi-agency and public recognition of recreation resources that are regionally significant. The mountains, rivers, and coastlines of the Southeast are examples of significant attractions that must be managed on a regional basis without the encumberances of political boundaries and disjointed land use. The disposition of these attractions is definitely a regional issue requiring a consolidated effort for resolution.

Management of cultural resources on national forest lands is in its infant stage. Information on significant historical and archaeological discoveries on NFS lands is compiled for scientific and interpretive opportunities. Beyond this, our responsibility extends to protection of the cultural resources of our national heritage.

The National Historic Preservation Act of 1966, as amended, requires the Department of Agriculture (hence, the Forest Service) to identify those cultural resources which are significant in the nation's history and prehistory and to protect these resources from damage or destruction. Executive Order 11953 requires the Department to inventory its land for this purpose. The RPA has set forth a target of 1990 for complete inventory of all national forest lands. This will include assessment of significant cultural resources. Forest Service Chief Peterson, in his address before the Subcommittee on National Parks and Insular Affairs, U.S. House of Representatives (March 17, 1980), clearly defined his position regarding cultural resources and Forest Service restrictions on its activities until these resources are taken into account:

"It is Forest Service policy that potentially ground disturbing activities may take place only after insuring that cultural resource values are identified and addressed, and the adverse impacts are mitigated and minimized. Generally, this means avoidance -- redesigning a timber sale or rerouting a road -- so that the area of concern may be left undisturbed...Thus, the compliance aspect of the

program supports other activity areas within the Forest Service, providing a mechanism to insure that the Forest Service undertaking will not adversely impact the heritage environment."

The Archeological Resources Protection Act of 1979 requires that a permit be issued in advance to any person or agency desiring to excavate and/or remove cultural resources from lands under the stewardship of a federal agency (including the Forest Service). Penalties for violation of this Act may amount to five years in a federal prison and \$100,000 fine.

Quite clearly, the Forest Service has a commitment, both implied and agreed upon, to identify cultural resources on national forest lands, to protect those which are significant in the Nation's prehistory and history, and to provide through those interpretive vehicles available, certain recreation values of significant sites for public education and enjoyment. While the disposition of significant cultural resource values can be handled through consultation with the President's Advisory Council on Historic Preservation, the requirements for cultural resources identification through survey and assessment is not open for debate.

There are immediate and far-reaching aspects of our preservation mission which cut across virtually all direct and indirect Forest Service management actions, and which directly affect the user-public.

There are two (2) main areas that should be addressed in managing cultural resources:

#### 1. Indirect Service to the Public

This area concerns direct uses of national forest land by the Forest Service in its mission to manage timber, protect watersheds, acquire and consolidate lands, establish and maintain range and wildlife openings, and construct and maintain the ancillary transportation networks necessary to support these activities. Broadly, activities such as these require cultural resources survey in advance of activity commencement. Sound management planning will account for survey activities, provided that these surveys are plugged into the planning process early (as required under 36 CFR 800 which implement the National Historic Preservation Act of 1966, as amended).

Presently, many land exchanges are delayed because cultural resource surveys have not been conducted. With increasing demands for faster turn-around time, the public sector may redress Forest Service management when surveys are not completed promptly. This situation can only be aggravated when extended to other activities such as timber sales, road construction, and the maintenance of watersheds.

#### 2. Direct Service to the Public

Area two (2) concerns direct uses of national forest land by the user. Uses include:

a. Recreation

Here, the user objectives are collection of artifacts for personal benefit monetary or aesthetic. Collection may include removal of artifacts from the surface of the ground, or excavation and subsequent removal. Under the Archeological Resources Protection Act of 1979, a special permit is required prior to initiation of such activity. The recipient must be a qualified archeologist or professional capable of developing scientific information on the subject of research. Pothunting is expressly forbidden under PL 96-95. One possible method to thwart illegal excavation may be to establish special "artifact collection areas", set up and designated as unique recreation opportunities. However, this will first require inventory.

b. Cultural resources identification and assessment is the responsibility of the Forest Service regardless of the type or special use activity involved. Presently, the Forest Service pays for the required professional archeological (cultural resources) survey. However, other federal agencies are passing these costs on to the user. Because cultural resources accountability lies with the federal agency official, delays in project permit issuance can be anticipated. User requests will far exceed Forest Service survey capabilities during the next decade. Cultural resources oriented legislation and resultant management options, together with the Chief's position, make our concern for these resources equal or greater than our concern for rare and endangered species. As stewards of the environmental and cultural elements which exist on national forest land, we serve the public.

Another major concern in recreation resource management is carrying capacity, not only for individual sites and special interest areas, but for the entire forest. Determining carrying capacity for recreation facilities and dispersed opportunities is extremely difficult. For specific sites, the environmental and experience capacity is less elusive. Site conditions and uses can be analyzed with a view toward limiting types of uses and numbers of people to acceptable levels. The primary objective is no degradation of either environmental or user experience quality. For dispersed recreation activities such as hunting, which use the entire forest environment, determining carrying capacities is another matter. There are so many variables that the analysis tends to be overwhelming. In most recreation activities on NFS lands, determining the desired quality of experience and limiting use to appropriate levels will solve many management problems, although the task of defining desirable experiences is formidable. Quality recreation

experiences will exist as long as environmental qualities supporting those experiences are maintained. Although extremely subjective, experience capacity estimates can be transformed into a model which can be tested and adjusted to yield more accurate information.

However, it is important that maximum stress points, for both environmental as well as user experience capacities, be identified in advance, to avoid situations which may approach being irretrievable.

## II. Forest Service Role in Supply and Demand

### Demand

Forest Service policy in recreation emphasizes coordination with other agencies and private interests in response to public needs. National forest resources provide a diversity of opportunity, but more visitor days of opportunity can be provided in the dispersed type of activities. The Forest Service also recognizes that economic opportunities exist for the private sector that complement its multiple-use management philosophy. These are two primary reasons for encouraging intensively developed recreation facilities outside national forest lands. Developed facilities will be planned accordingly. National forests should exemplify the multiple-use management concept. Coordination with state and private interests should result in increasing opportunities for quality recreation experiences outside national forests.

The recreation opportunity planning (ROP) system, recently implemented as a sub-planning activity in the land management planning process, directly addresses the conflict of demand vs. needs. Demand "reflects what the public wants but not necessarily what the Forest Service can provide or even should provide...". Needs are what recreation planners should address in order to meet national and regional goals.

Recreation Demand (needs) data is not summarized for Region 8 National Forests as yet. Rim data on current use is available and trends analysis may be gleaned from several research surveys. However, specific data relating to recreation needs at a regional level is not conveniently available.

It is clear that the Forest Service will play a greater role in dispersed recreation because the trend of public use and forest direction is toward this end.

Future demands for forest recreation opportunities may well change pattern by the year 2000. Demographers report that majority of our population will be between the ages of 45 to 64. The recreation activities associated with this age group differs from the spectrum of recreationists currently using NFS lands. Wilderness camping and other primitive related activities may actually experience a reduction in use.

Recreation demands may also be adversely affected by changing economic trends. Reduced incomes and rising travel costs resulting from inflation may lead to home and community centered recreation outlets. Urban forests can expect increasing pressures for day use facilities. Distant national forests will likely experience reduced visitation until public transportation is developed to meet need.

Table 1

## Recreation use by activity, F.Y. 1979

<u>ACTIVITY</u>	<u>1,000's OF RECREATION VISITOR DAYS</u>	<u>PERCENT</u>
Mechanized Recreation Travel	5482.8	20.2
Camping	5482.6	20.2
Hunting	3933.8	14.4
Fishing	2928.0	10.7
Winter Sports	9.1	.0
Hiking and Mountain Climbing	1571.6	5.8
Picnicking	1849.4	6.8
Boating	1223.2	4.5
VIS (talks, exhibits, etc.)	694.6	2.5
Horseback Riding	347.4	1.3
Recreation Residence Use	284.0	1.0
Gathering Forest Products	373.5	1.4
Viewing Scenic, Sports, Environment	1011.9	3.8
Swimming and Scuba Diving	1157.9	4.3
Resort Use	116.0	.5
Organization Camp Use	230.9	.8
Nature Study	139.8	.5
Waterskiing and Other Water Sports	254.7	.9
Games and Team Sports	86.7	.3
TOTAL	27,177.9	99.9%

Table 2

## Summary of Southern Region Developed Sites, F.Y. 1979 (as of 2/1/80)

DEVELOPED RECREATION OPPORTUNITIES	NUMBER OF SITES	CAPACITY (PAOT) 1/
Observation Sites	126	6,970
Playgrounds, Parks, Sports Sites	169	19,231
Boating Sites	22	410
Swimming Sites	100	28,241
Campgrounds, Family	339	40,298
Campgrounds, Group	22	1,755
Picnic Grounds, Family	251	17,144
Picnic Grounds, Group	5	940
Hotels, Lodges, Resorts-Forest Service Owned	5	145
Hotels, Lodges, Resorts-Privately Owned	3	750
Organization Sites-Forest Service Owned	10	1,279
Organization Sites-Privately Owned	18	2,392
Other Concessionaire Sites	6	975
Recreation Residence Sites	42	3,590
Winter Sports Sites	0	0
Documentary Sites 2/	10	395
Interpretive Sites-Major	11	4,615
Interpretive Sites-Minor	90	11,894
Interpretive Sites-Administrative	2	50
Information Sites	7	517
<b>TOTAL</b>	<b>1,238</b>	<b>141,591</b>

1/ PAOT = People At One Time

2/ A cultural or historic site that documents an important past event.

Table 3

Recreation Use by National Forest, F.Y. 1979  
 In Thousands of Rec Visitor Days

	Developed Sites	Dispersed Areas	Wilder- ness	Total
Alabama	271.7	872.9	9.3	1153.9
Daniel Boone	631.7	1918.9	9.8	2560.4
Chatteoochee	363.4	1503.1	32.7	1899.2
Cherokee	861.0	1185.8	27.7	2074.5
Florida	1422.2	1895.2	1.7	3229.1
Kisatchie	211.6	331.9	-	543.5
Mississippi	285.6	942.2	-	1227.8
George Washington	368.3	1424.6	-	1792.9
Ouachita	293.8	1557.2	10.5	1861.5
Ozark	526.0	753.0	1.0	1280.0
North Carolina	1237.8	2797.2	438.5	4474.2
Francis Marion & Sumter	224.3	749.4	12.5	986.2
Texas	279.3	1440.8	-	1720.1
Jefferson	318.7	1355.7	4.6	1679.0
Caribbean	396.2	299.4	-	695.6
TOTAL	7691.6	18,938.0	548.3	27,177.9
PERCENT	28.3%	69.7%	2.0%	100%

### III. Potential for Resolution

The potential for determining the kind of recreation the Forest Service should provide and what its share should be is great but this task will require extensive cooperation and coordination among numerous agencies, organizations and the public on a very broad scale. Objectives for such an effort must be universally accepted. A recreation resource and land classification system must be developed that is adaptable to state, local and private planning efforts. Without such a system, each agency, using a variety of techniques, will produce its own perspective of the problems and what resources are available to deal with them.

If a region-wide recreation inventory could be conducted involving all resource management agencies throughout the southeast, resolution of the issue on how much and what kind of recreation should be provided, could be adequately addressed.

The Land Management Planning process and RPA programs appear to provide some opportunity for resolution, but only to a limited extent. Heritage Conservation and Recreation Service is in the best possible position to manage the coordinated effort between federal, state and local governments in a recreation inventory of this scale.

A universally accepted system is needed which is implementable across political systems and management philosophies. Supply data must be gathered from common sources to avoid differences in interpretation. Research conducted through an agency such as HCRS should be able to supply what is needed. Thus, a summary of all SCORP Reports would be available as a significant analysis tool to consider comprehensive factors of recreation supply and demand in the Southeast, regardless of ownership or control.

The question of how much and what kind of recreation should be supplied by the Forest Service in Region 8 can be only partially addressed in the Regional Plan at this time. If the coordination between agencies and the comprehensive data analysis were available as previously discussed, recreation direction in the regional plan could more adequately respond to demand and supply.

### IV. Potential for Forest Service Resolution By Resource Allocation or Management Standard

For the period 1980-85 the RPA program recreation element does not reflect the costs for coordinated comprehensive recreation surveys that are needed to adequately determine the Forest Service role in the South.

In the 1985 to 95 period this inventory, analysis, and recreation program proposal could be achieved in the Chief's preferred alternative; however the need for a well-defined regional recreation program is in the 1980-85 period. Land use competition and energy problems create an urgency for solutions to social problems that need to be addressed now.

The Regional Plan should reveal that the Forest Service role in recreation cannot be regionalized to any credible level of accuracy without benefit of a comprehensive resource and recreation opportunity picture.

#### V. Anticipated Resolution

##### Policy:

--The Forest Service will continue current recreation policies which emphasize dispersed recreation while continuing to provide developed recreation on National Forest System land. New emphasis will be placed on energy efficiency in recreation use and development by making recreational opportunities on National Forest System lands more accessible, usable, and enjoyable for urban residents(N).

##### Objective:

--(refer to targets in Recreation element)

--Establish a cooperative program with HCRS to identify appropriate Agency share of regional recreation supply and demand (needs) by January 1983 (PA).

##### Management Standard and Guideline:

--Forest Supervisors will continue to apply Regional standards for management of the Appalachian Trail (PA).

## BIBLIOGRAPHY

1. Proceedings, 1980 National Outdoor Recreation Trends Symposium,  
Sponsored by: NE Agricultural Experiment Stations, NE-100;  
USDA Forest Service; USDI, HCRS; Recreation Working Group,  
Society of American Foresters; University of N.H., Recreation  
and Parks Program, September, 1979
2. Outdoor Recreation Advances in Application of Economics,  
Compilers: Jay M. Hughes, Director, Forest Economics and  
Marketing Research, Washington Office & R. Duane Lloyd, Deputy  
Director, NE Forest Experiment Station, March 1977
3. Southern Region 1980 RPA Recommended Program Distribution by  
National Forest
4. The Executive Report, The Third Nationwide Outdoor Recreation  
Plan, U.S. Department of the Interior, Heritage Conservation  
and Recreation Service, December, 1979
5. The American Environment, Readings in the History of  
Conservation, Edited by Roderick Nash, 1976
6. Conflict in the Great Outdoors, Hobson Bryan, 1979
7. Outdoor Recreation, A Legacy for America, prepared by Robert L.  
Adams, Robert C. Lewis, and Bruce H. Drake, under the  
supervision of William A. Vogley, Director, Office of Economic  
Analysis, USDI, December 1973
8. Outdoor Recreation, Malcolm I. Bevins, August, 1980
9. An Issue Report, Federal Resource Lands and their Neighbors,  
William E. Shands, 1979
10. Recreation for the Future, Southern Region, June 1971
11. The 1980 Report to Congress on the Nation's Renewable  
Resources, 1980





## WILDLIFE AND FISH DIVERSITY

**Issue: Wildlife and Fish** - In order to provide diverse wildlife and fish populations and to enhance threatened and endangered species habitat, how should the Forest Service manage the national forests or provide support to private forest landowners?

### I. OVERVIEW

Wildlife and fish are an integral part of the country's ecological system and have contributed substantially to our cultural heritage, economy and the recreation potential of our nation. Their condition reflects the condition of the nation's land and water. Traditionally, Southerners have hunted and fished both for food and recreation.

Big game, consisting of deer, bear, and turkey, was extirpated throughout the Southeast with the exception of a few remote mountain areas and swamp lands. Both wild turkey and deer have been restocked very successfully and all southeastern states now have an open season on both, with liberal bag limits. The bear population is barely holding its own although there ia an open season in four states. The exotic European boar is hunted in the Southern Appalachians as are feral hogs throughout much of the Coastal Plain.

Small game, including quail, dove, rabbits, squirrel, grouse, woodcock, and raccoon, are hunted throughout their range in the Southeast. Water fowl are popular with hunters both along the coast and on inland waters. Nongame species are enjoyed by many wildlife watchers and photographers.

Both coldwater fish--brook, rainbow and brown trout--and warmwater fish--including bass, pike and many sunfishes--are found and pursued on the national forests and throughout the Southeast.

Twenty-two threatened and endangered species of wildlife are found in the Southeast, and steps are being taken to protect them and enhance their habitats.

With the exception of two states, the Forest Service manages wildlife under the terms of a Memorandum of Understanding with the State Game and Fish Agency. This memorandum defines the Forest Service responsibility as the management of wildlife habitat. The state is responsible for the wildlife itself.

Information is unavailable to give a comprehensive picture of the demand and supply of wildlife. The number of hunting and fishing licenses sold by each state could be compiled but this would give little indication of how many people participated in hunting and fishing activities or how many days were so spent. There is no information available on use of nongame wildlife. One survey indicates the number of consumptive and non-consumptive users is about equal. However, as casual observers whose main interest was in camping were compared to licensed hunters and fishermen, even this statement is suspect.

Other sub-issues that concern Wildlife and Fish have been identified. These include:

- a. How can management of other resources be coordinated to benefit game and nongame wildlife and fish species?
- b. How can the Forest Service assist the states in obtaining better game law enforcement?
- c. What direct habitat improvements are needed to reach objectives in production of game and nongame fish and wildlife?
- d. What needs to be done to improve endangered and threatened species habitat to the point where they can be delisted?
- e. What protection is being provided for special habitats, such as riparian areas, overmature timber, tree dens, etc.?
- f. What can be done to resolve conflicts between roads and wildlife and fisheries?

## II FOREST SERVICE ROLE IN SUPPLY AND DEMAND

There is no information available that describes the role of the Forest Service in demand and supply of wildlife and fish in the Southeast. Several states have a special hunting and/or fishing license requirement for national forest lands but these cannot be tied into total licenses sold or total hunting and fishing visitor days.

TABLE 1<sup>1/</sup>

## Present and Future Situation for Wildlife and Fish on Region 8 Forests

<u>Species Group</u>	<u>Demand</u>	<u>Supply</u>	<u>Comment</u>
Nongame species	Increasing	Increasing	Opportunities exist to improve habitat and create additional viewing areas.
Endangered and threatened species	High	In process of censusing	The Endangered Species Act set a framework for this situation.
Big game	Increasing 14%/year	Increasing slightly	Hunter success is good. Many forests near or at carrying capacity. Hunting quality is threatened.
Small game	Moderately increasing 6%	Ample	Opportunities exist on many forests to improve habitat, protection and carrying capacities.
Waterfowl	Increasing 19%/year	Decreasing	Land use and rainfall in nesting grounds control population size of population.
Coldwater fish	Increasing	Decreasing	Supply depends upon hatchery production and protection of fisheries.
Warmwater fish	Increasing	Ample at this time	Demand being met at present. Some opportunity for expansion.

1/Table 1 gives relative supply and demand information on wildlife and fish in Region 8.

2/Table 2 gives the projected use in RVDs for in place habitat and those added due to habitat improvement.

**TABLE 2**  
**Wildlife and Fish**  
**Elements**  
**Outputs by RPA Alternative and Year (In thousands of RVDS)**

RPA ALT	Market Output Level	Non-M Output Level	1981	1982	1983	1984	1985	1988	1995	2005	2015	2025
I	High	High	3710.7	4068.8	4295.6	4544.0	4825.1	5926.4	6071.7	6052.3	6225.2	6472.9
II	Low	Low	3103.8	2711.0	2848.5	2941.1	3045.8	4025.2	4050.7	2166.0	2179.4	2168.0
III	Mod	Mod	3745.8	3620.9	3447.5	3836.6	3976.2	4968.5	4231.6	4437.1	5269.6	5371.2
IV	Low	High	3622.5	3847.6	3993.8	4162.6	4315.6	5012.1	5146.7	5318.3	5476.3	5627.0
V	Mod	Low	3508.8	3469.5	3543.7	3701.7	3858.4	4377.9	4511.1	4715.6	4833.0	4942.9

**ELEMENTS**  
**Wildlife and Fish**  
**Output (Improvement) by RPA Alternative and Year (In thousands of RVDS)**

RPA ALT	Market Output Level	Non-M Output Level	1981	1982	1983	1984	1985	1988	1995	2005	2015	2025
I	High	High	486.6	481.8	511.4	580.3	613.0	660.5	620.8	601.4	620.4	634.1
II	Low	Low	353.4	314.1	318.0	367.2	379.0	437.4	411.1	51.0	50.6	49.7
III	Mod	Mod	409.2	476.4	476.4	515.1	563.3	634.6	581.1	631.2	647.9	675.0
IV	Low	High	476.9	490.5	508.1	617.6	693.9	490.1	575.3	587.0	583.1	591.2
V	Mod	Low	370.9	421.7	417.3	483.3	464.9	474.8	503.3	520.0	522.0	537.4

The estimated number and harvest of big game animals on National Forests in Region 8 are listed in Table 3.

TABLE 31/  
Big Game Animals by Species

<u>National Forest</u>	<u>Species</u>	<u>Number</u>	<u>Harvest</u>
Alabama	Turkey	9,370	602
	Deer	19,960	2,375
	Bear	7	
Arkansas	Turkey	38,150	2,877
	Deer	32,370	3,740
	Bear	115	
Florida	Turkey	1,215	79
	Deer	11,400	1,020
	Bear	180	19
Chattahoochee-Oconee	Turkey	2,530	119
	Deer	22,750	3,070
	Wild Boar	272	24
	Bear	287	6
Daniel Boone	Turkey	400	1
	Deer	6,850	526
Kisatchie	Turkey	4,120	189
	Deer	11,490	1,490
	Bear	5	
Mississippi	Turkey	12,340	1,218
	Deer	28,980	5,250
	Bear	3	
North Carolina	Turkey	1,630	21
	Deer	30,600	2,360
	Wild Boar	500	50
	Bear	895	165
Francis Marion-Sumter	Turkey	6,490	818
	Deer	31,450	5,040
	Bear	53	
Cherokee	Turkey	1,730	27
	Deer	11,480	652
	Wild Boar	750	116
	Bear	255	13
Virginia	Turkey	21,160	3,120
	Deer	59,670	11,410
	Bear	565	102
Texas	Turkey	187	1
	Deer	13,330	1,392

1/There are no estimates of numbers of small game or nongame available.

### III. SOUTHERN REGION POTENTIAL FOR RESOLUTION

There is no way to estimate the potential of the Southern Region to contribute to the supply of wildlife and fish in the Southeast. However, by better coordination with other resource management, an aggressive direct habitat improvement program and full cooperation with state agencies, the production potential of wildlife habitat can be realized. While some forests are at, near, or over their carrying capacity for certain big game, generally the populations of wildlife can be increased.

### IV. POTENTIAL FOR FOREST SERVICE RESOLUTIONS

As noted in Section III the problem of reaching the full potential of production of wildlife and fish can be solved--

--coordination with other resources

--direct habitat improvement

--cooperation with state agencies

Wildlife habitat can be improved by better coordination with several resources (Sub-issue a). Timber management has the greatest effect on wildlife of any resource management. Coordination with timber management is critical in obtaining and maintaining diversity and interspersion. Timber harvest temporarily eliminates the habitat for those species using the later stages of plant succession and temporarily creates habitat for those species using the early stages of succession. By achieving a balance of age classes by stands and a variety of timber types both consumptive and non-consumptive wildlife needs can be met. The results of timber management and coordination with wildlife habitat needs will be checked by monitoring certain management indicator species. In selecting the species to monitor, four groups will be considered. These are threatened and endangered species with special habitat needs, species commonly hunted, fished or trapped and those species whose population changes indicate effects of management activities on other species of a major biological community or water quality. In many cases there are no techniques for monitoring the selected animal species in which case the potential of the habitat will be monitored.

In the Southern Region coordination can be accomplished by use of the featured species system as described in FSH 2609.23R, Wildlife Habitat Management Handbook. This handbook presents habitat requirements for specific game species, establishes population objectives for management and provides guides for habitat management by forest type. It recognizes that habitat manipulation by silviculture is the most efficient and lasting means of improving national forest wildlife habitat.

Coordination with soil and watershed management can improve both fish and wildlife habitat. Examples are the improving the water quality by soil stabilization and the including of clover and other high value wildlife foods and seed mixtures used in soil stabilization

Coordination with recreation may be necessary to protect riparian areas from over-use forest recreationists.

An example of coordination of range and wildlife is the construction of waterholes for use of cattle and wild animals.

Cooperation with State Game and Fish Departments is essential to developing the full potential of the national forests (Sub-issue b). National policy establishes the responsibility for habitat as that of the Forest Service and the responsibility for the wildlife and fish harvest and protection as that of the State Wildlife Agency. Regardless of the excellence and abundance of habitat, the potential cannot be realized unless the wildlife and fish are protected and properly harvested. Full cooperation between both agencies is essential. While protection is mainly the duty of the state, the Forest Service too has some responsibility. The Forest Service can and should assist the states in game law enforcement by--

--active participation of trained Forest Service investigators

--more diligent reporting of game and fish law violations, including appearing as a witness when appropriate.

Direct habitat improvements are those improvements made to provide some essential to a particular habitat which cannot be obtained through coordination. (Sub-issue c). An example would be turkey range where all habitat needs were met except water. Creation of man-made waterholes would complete the range.

As habitats are analyzed and the wildlife needs ascertained, appropriate direct habitat improvements will be made. FSH 2609.11, Wildlife Habitat Improvement Handbook, lists many of the options available to fill needs that may be limiting numbers or species of wildlife and fish.

The Endangered Species Act provides the authority for managing threatened and endangered species. (Sub-issue d). Inventory and life history information is necessary to provide for their recovery. The Forest Service is making an inventory of all endangered species. As these are completed, life histories will be compiled. In the meantime appropriate measures are being taken to enhance the habitat and increase the population. These measures will be adjusted as additional knowledge concerning the various species is acquired.

Approximately two-thirds of the Red-Cockaded Woodpeckers known to exist are found on Region 8 Forests. Extensive searches for the Eastern cougar, and the Bachman's warbler have been made. It now appears that neither exists on national forests in the South.

Region 8 policy (R8 Supplement NO. 36, FSM 2631.2) provides for snags, den trees and overmature timber. (Sub-issue e) In addition, thousands of acres of set-aside zones, such as filter strips, key wildlife areas, research natural areas, scenic areas and wilderness areas also provide these needs. Policies for protection of riparian areas are being developed.

Proper and well-coordinated transportation system planning, construction, operation, maintenance and control are necessary to minimize road related impacts on the wildlife, fisheries and other resources. (Sub-issue f) Present transportation system policies may need to be adjusted.

#### V. ANTICIPATED RESOLUTION

##### Policy:

--The Forest Service will increase emphasis on wildlife and fish in the management of the National Forest System. Other forest landowners will be encouraged to practice multiple-use management. The agency will encourage the consideration of wildlife in developing state comprehensive forestry plans (N).

##### Objective:

--(Refer to targets in Wildlife & Fish element)

**Management Standard and Guideline:**

--Activities required to manage access will be maintained by the Forest Supervisor, see Access ICO (PA).

--Continue to follow direction in FSH 2609.23R, Wildlife Habitat Management Handbook (PA).

**References**

1. RPA, A Recommended Renewable Resource Program, USDA, Forest Service,  
March 1976.
2. Annual Wildlife Report USDA, Forest Service, 1979.

1980-1981

1981-1982

1982-1983

1983-1984

1984-1985

1985-1986

1986-1987

1987-1988

1988-1989

1989-1990

1990-1991

1991-1992





## NATIONAL FOREST LAND

Issue: Lands - Is the acreage and location of national forests in the South now adequate to meet public needs? What should be the priority for national forest land acquisition or exchange?

### I. Overview

Various lands activities exist because of the interactions that occur at the line where national forest and private land meet. They exist because of the need for public and private owners to know exactly what they own, and where it is located. They exist because of the need for access across private lands to reach the national forest, and the need for access across national forests to reach private lands. They exist because activities on national forest lands impact the management of privately-owned lands. They exist because of the need to use private lands for public purposes, and public lands for private purposes.

The various needs described above exist in direct relation to the miles of property line on a national forest. Scattered landownership patterns produce relatively large numbers of landlines, title claims, occupancy trespasses, rights-of-way, special uses, and the problems and controversies that go with them. Consolidated ownership patterns greatly reduce those issues. Consolidated national forest lands can be managed more efficiently, and provide better public services and higher quality resource output. Lands are acquired to meet identified resource goals such as timber production, water quality and quantity, etc.

Land purchase and exchange are the tools by which the Forest Service can, in many cases, accomplish many of these objectives. Isolated tracts of land are conveyed to private owners, thereby eliminating miles of boundary line and many claims, trespasses, special uses, and the need for rights-of-way. Acquisition of private inholdings eliminates many of the same problems, and also improves the opportunities for public use and the variety and quality of the resources that can be produced. The net desired result is a national forest that can better meet the objective for which it was established.

National forests in the Southern Region had their beginning in 1903 with a proclamation of the Luquillo Forest Reserve in Puerto Rico, followed by several proclamations in 1907 and 1908 that established national forests in Arkansas and Florida from lands reserved from the Public Domain.

On March 1, 1911, the Weeks Act, which authorized purchase of lands for protection of navigable streams, was signed into law. This was the start of the acquisition program in the mountainous areas of the South and East. In 1924, the Weeks Act was amended to provide for the acquisition of lands for timber purposes. This allowed acquisition in the Piedmont and Coastal Plains areas. During the depression years of the 1930's, the Bankhead Jones Farm Tenant Act authorized the acquisition of lands for various economic and social reasons. After World War II many of these lands were transferred to state and local governments. In 1954, the responsibility for the further management and disposition of these lands was assigned to the Forest Service. Numerous areas that were suitable for national forest purposes because a part of the National Forest System while two areas in Texas were designated as national grasslands. Those areas designated as national forests are subject to the same laws as those lands acquired under the authority of the Weeks Act. Subsequent legislation such as the Multiple Use-Sustained Yield Act has further defined the purposes for which the national forests are to be used. The Land and Water Conservation Fund Act of 1965 made possible funding for lands that are valuable for outdoor recreation purposes. These lands also have value for watershed protection and timber production.

National forests were created in those states where conditions of the watersheds and land uses were such that a federal effort to manage the land and its resources was necessary. States passed enabling legislation, thereby granting the United States authority under the Weeks Act to acquire lands for national forest purposes. Areas where lands were to be acquired were studied and classified. Purchase units - areas where lands could be acquired - were established, and the long, slow process of acquiring thousands of tracts started. When manageable areas were acquired, national forests were established. Exchanges of land for land, or land for timber, were authorized by law. The need to acquire rights-of-way to provide for access was recognized, and authority was granted. Other uses of the forest land were authorized by various laws. These included uses such as roads, utility lines, water supplies, limited agricultural uses, recreation facilities, etc.

The acquisition and exchange of lands progressed at a rather slow pace until the depression years of the 1930s. At that time, acquisition was accelerated to address pressing social, economic and resource needs. This acquisition was interrupted by World War II, and never resumed at the rate that was anticipated to create a more manageable national forest that more fully meet the intent of authorizing legislation.

FIGURE 1

PERCENT OF STATE WHICH IS NFS LAND

Average of Eleven  
Western States = 18.4

Average of Region 8  
States - 2.2

50.0

38.2

25.0

21.6

20.8

20.0

17.8

15.5

14.8

14.8

11.9

7.3

6.2

4.3 (R8-0.8; R9-3.5)

3.7

3.4

2.9

2.6

2.3

1.9

1.3

0.6 (R8-0.5; R3-0.1)

0.4 (R8-0.4; R3-0.0)

FIGURE 2

PERCENT OF STATE WHICH LIES INSIDE NFS BOUNDARIES



FIGURE 3

DEGREE OF NFS CONSOLIDATION BY REGION

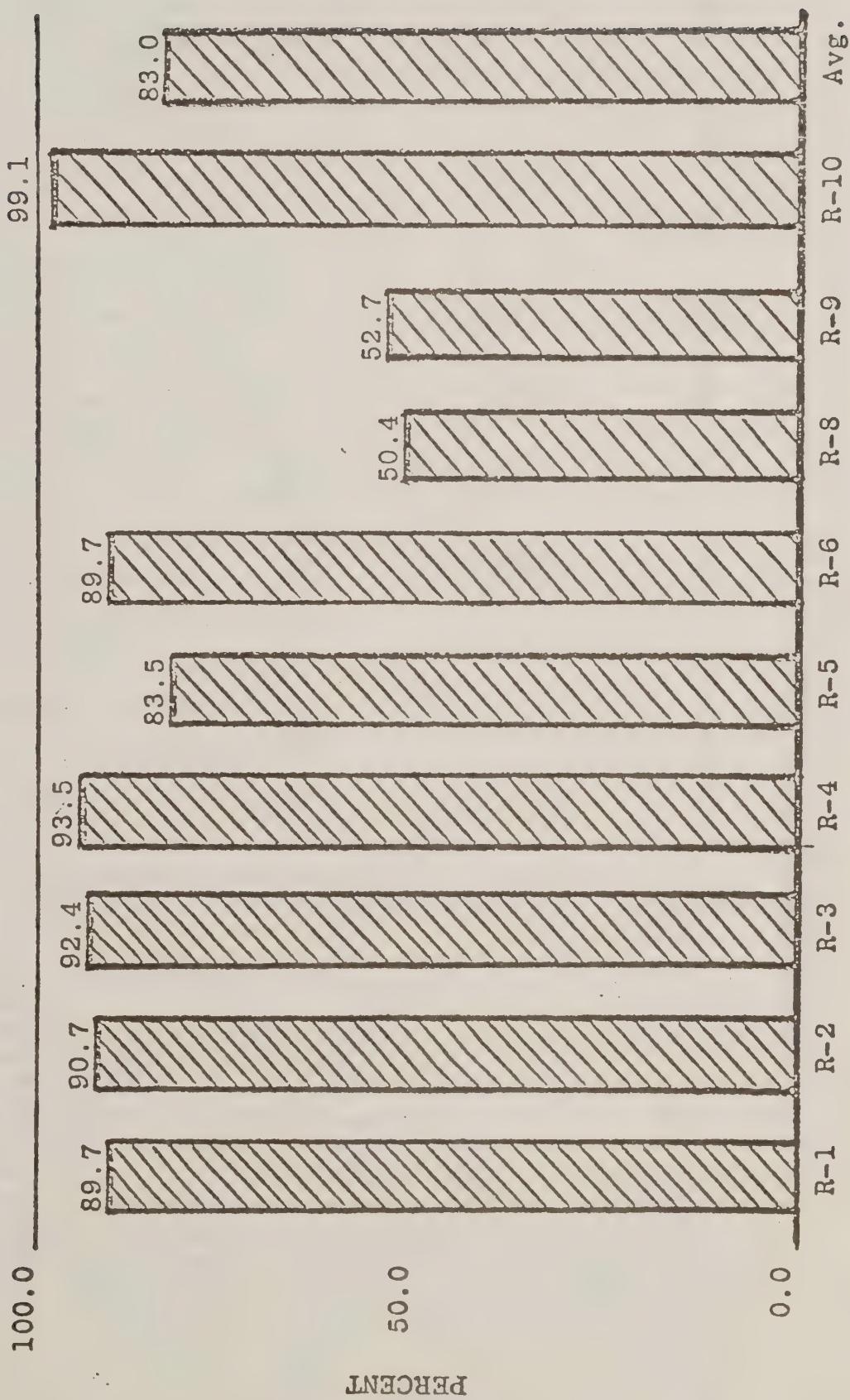


FIGURE 4

DEGREE OF NFS CONSOLIDATION BY STATE

100.0

PERCENT

0.0

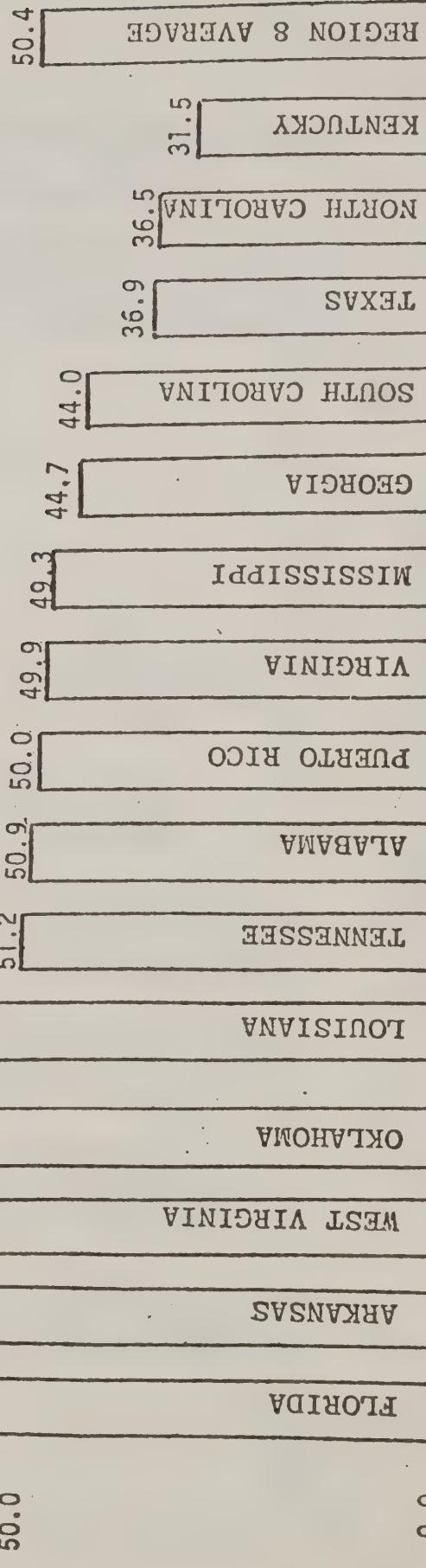


FIGURE 5

DEGREE OF NFS CONSOLIDATION BY SUPERVISOR

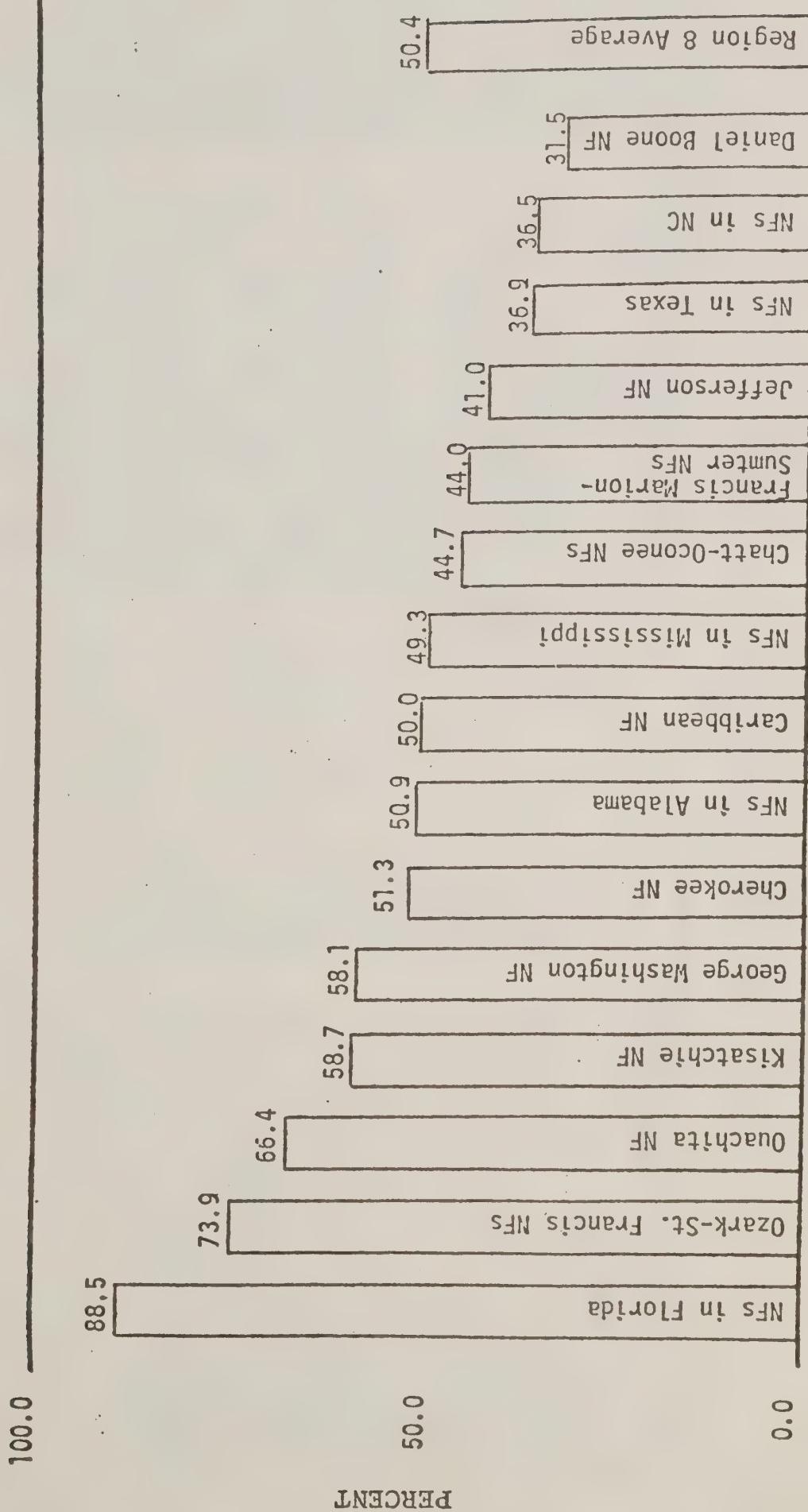


FIGURE 6

DEGREE OF NFS CONSOLIDATION BY INDIVIDUAL UNITS

Units With Percent of Consolidation  
Above Region 8 Average

Osceola NF, FL	97.2
Apalachicola NF, FL	88.3
Ocala NF, FL	85.6
Ozark NF, AR	73.9
St. Francis NF, AR	70.7
Tuskegee NF, AL	68.8
Ouachita NF, AR/OK	66.4
DeSoto NF, MS	62.9
Francis Marion NF, SC	60.2
Kisatchie NF, LA	58.7
George Washington NF, VA/WV	58.1
Tombigbee NF, MS	55.4
William B. Bankhead NF, AL	51.4
Cherokee NF, TN/NC	51.2
Croatan NF, NC	50.8
Talladega NF, AL	50.7
Homochitto NF, MS	50.6

Units At or Below The Region 8  
Average Percent of Consolidation

Region 8 Average	50.4
Delta NF, MS	50.4
Caribbean NF, PR	50.0
Conecuh NF, AL	49.0
Bienville NF, MS	46.4
Chattahoochee NF, GA	45.4
Pisgah NF, NC	45.2
Sabine NF, TX	42.7
Jefferson NF, VA/WV/KY	41.0
Davy Crockett NF, TX	41.0
Oconee NF, GA	40.2
Angelina NF, TX	39.8
Daniel Boone NF, KY	38.5
Sumter NF, SC	37.0
Nantahala NF, NC	34.1
Sam Houston NF, TX	32.3
Holly Springs NF, MS	28.1
Caddo NG, TX	25.8
Uwharrie NF, NC	20.8
Redbird PU, KY	20.1
L. B. Johnson NG, TX	17.6
Yadkin PU, NC	0.0

The federal land within the national forest boundaries is approximately half of the total land within the exterior boundaries of the national forests in the Southern Region. This represents the poorest landownership pattern in the National Forest System. Figures 1-5 make various comparisons to illustrate this situation, while Figure 6 indicates the positions of various National Forest System units above or below average consolidation (50.4%)

Within the Southern Region, the Forest Service administers about 12.5 million acres of land in 14 Southern States and Puerto Rico. The boundaries of the 34 national forests and 2 national grasslands include 24.9 million acres. The National Forest System acreage is scattered within these boundaries. Regionwide, approximately 49% of the area within the administrative boundaries of the NFS is still in private or other ownership. To minimize the cost to administer these lands (for instance, the Region has over 42,000 miles of property lines), and efficiently provide goods and services, the Region has been actively consolidating federal ownership, primarily through exchange and purchase from willing sellers. Figure 6 is a tabulation of the acreage by units within the national forests in the Southern Region.

## **II. Forest Service Role in the Supply/Demand Situation**

The source of supply of additional land for federal ownership and national forest management is primarily private land. Other federal lands acquired through interchange or transfer can be an additional source in certain areas. The total quantity of land in the Southern Region is fixed, and land acquired by the federal government for administration by the Forest Service has to be transferred from one of the above uses. In the Southern Region, only 6% of all lands are in proclaimed national forests and the Forest Service presently manages only about 51% of these lands. Most of the future acquisition and exchange will be within existing purchase units. The supply of these lands exceeds the acreage proposed for purchase in any of the 5 RPA alternatives.

Only when the supply of land is viewed from a quality stand point with desirable characteristics identified does the supply problem emerge. The supply of land with specific quality characteristics is complicated when a policy of purchasing from only willing sellers is pursued. However, over time, lands with the desirable characteristics should continue to be added by continuing the present policy of acquiring from willing sellers.

The public issues that have been raised indicate a divergence of opinion concerning lands activities. These differences of opinion can become emotional and are, for the most part, local in nature, and are handled on a case by case basis. Concern expressed by local governments is voiced at times. Payments are made to each county for roads and schools - amounting to 25% of the receipts from the national forests. Where productivity from national forest lands has been high, the payment from 25% funds has been relatively high, and these payments have usually equalled or exceeded the amount that the county or parish receives from similar lands. Conversely, national forest land with low productivity or low volume outputs have not returned an amount equal to the amount that the county was receiving or could receive from similar privately owned lands. This caused problems with some counties, although the kind and amount of services that countries provided to the lands administered by the Forest Service were usually less than for similar privately owned lands (examples include reduced road costs, costs for fire protection and law enforcement). In response to this concern, the Payment in Lieu of Taxes Act provides for payments to those counties or parishes that receive low payments. Subject to available appropriations, the 25% final payments are supplemented to a minimum of \$.75 per acre. This combination has eliminated the basis for most of the objections concerning payments in lieu of taxes.

Condemnation is not routinely used to acquire land. The success of the national fores land adjustment program has been based on negotiated purchase, and this will continue to be Forest Service policy, except in special cases.

The concerns voiced primarily affect the management and cost effectiveness of national forest programs and production of goods and services. Many of the concerns, such as landline location, claim and occupancy violations, rights-of-way, and special use permit administration, can be addressed through a program planned to improve ownership. Increased demand for goods and services from national forests can also be addressed in land ownership adjustment and acquisition.

There appears to be, throughout the Region, ample opportunity to acquire lands from willing sellers. In some areas, because of competing uses for the land, acquisition is limited, and land exchange is the best and sometimes, the principal method of improving ownership. In other areas, land is available or becomes available for various reasons, and these tracts can be acquired by purchase or exchange. Some areas of scattered ownership will be identified through the forest planning effort as being available for disposal through exchange.

### III Southwide Potential for Resolution

It does not appear that any other federal agency or department-National Park Service, Department of Defense, Fish and Wildlife-Service, will greatly influence national forest ownership on the Region. An exception is the portion of the Chattahoochee National Forest which reverted to military use in 1940, to be used as a resource. Parts of this reserve may return to national forest administration if no longer required for military uses.

### IV Potentials for Forest Service Resolution

Since the majority of the lands within the boundaries of all the national forest in the Region meet the requirements of the Weeks Act, and lands needed for recreation must meet the requirements for purchase under the Land and Water Conservation Fund, it is a question of where the lands need to be acquired, and at what level.

The high bound and low bound programs for land acquisition provide the RPA parameters. Emphasis during the period ending in 1989 will be placed on lands required for future recreation needs (including wildlife) on those forests having a shortage. The acquisition of lands for timber production and watershed protection will proceed simultaneously with the acquisition for recreation purposes and then continue until the two-thirds ownership within the boundaries is accomplished on a Regionwide basis.

Efforts to consolidate will be made on all forests, with the eventual goal of elimination of as many inholding as possible. The task is greater on those forests with poor ownership patterns, yet key tracts within those forests with a fairly high percentage of lands already administered within their boundaries will be acquired as they become available, and as funds for this purchase become available. A summary of the Region indicates the following:

#### Recreation

Lands identified by the Congress as appropriate for acquisition include Mt. Rogers Recreation Area, the Appalachian National Scenic Trail, lands within Eastern Wilderness Areas established by Congress, where the present use of land is determined to be incompatible with the Wilderness, and rivers designated as Wild and Scenic. Other areas of outstanding importance include the Red River Gorge Area in Kentucky, the Talledega Scenic Drive in Alabama, and trails throughout the Region that may be designated as National Scenic Trails.

Emphasis can be placed on acquiring lands for rare and endangered species of both plants and animals areas near urban areas and near major transportation facilities and also be considered as high priority.

It is anticipated that acquisition of needed recreation lands will be accomplished by using L&WCF funds at an accelerated rate, through 1989.

#### Timber Management

One of the problems associated with timber management, in particular, has been and continues to be the difficulty of managing small ownerships on a sustained yield basis. Owners of small isolated tracts within national forests, (have problems in managing those lands), whether these tracts are located in the highly productive pine-growing lands of the Coastal Plains or in the coves and slopes of the mountains. Frequently, these tracts, whether belonging to individuals or corporations, become available and can be acquired by purchase or exchange. While it is often true that lands in private ownership can produce as much or more fiber than those same lands can produce under Forest Service administration, the location and size of these private tracts results in higher costs of management to the owners. The longer rotations on national forests also contribute to the production of high quality sawtimber - a commodity not always available from privately owned holding - particularly small ones. As lands are diverted from timber production, whether on national forests or on private lands the need to continue the production of high quality material becomes more important. For these reasons, the analysis reveals that land acquisition will help satisfy long-term timber goals in addition to the other benefits of consolidated ownership.

Tracts available in the pine growing areas of the Piedmont and Coastal Plain area of North Carolina, Georgia, South Carolina, Louisiana, Alabama, Mississippi, East Texas, and areas of Central Arkansas could be considered top priority if lands are available. The better hardwood sites in the mountains of North Carolina, Tennessee, Western Virginia, and Eastern Kentucky can be top priority for hardwood sites.

#### Watershed

The critical watersheds of the southern national forests (those that have eroded land and yield poor quality water) contain many private inholdings or adjacent tracts of private lands within their boundaries. These lands complicate the accomplishment of watershed management objectives - the protection, conservation and enhancement of soil productivity and water resources.

Poor watershed conditions, gullies, galls, rills, abandoned mines, roads and borrow pits exist on many acres of private land scattered within the proclamation boundaries of national forests. In addition, there are literally thousands of acres in poor hydrologic condition that are less visible, but nonetheless contribute to flash floods, massive land slides and other forms of degradation. Many of these poor watershed conditions occur within the upper reaches of watersheds. These tracts are intermingled with national forest acreage. Under the current ownership pattern, treatments to improve watershed conditions are being carried out on national forest lands as funds permit, while most of the other lands are receiving little or no treatment.

The necessary work to be done on the national forest land is not accomplished in many cases because the location of these privately owned tracts in the upper reaches of the watersheds prevents the accomplishment of the needed work.

Within the Region, it is estimated that there are approximately 900,000 acres of intermingled lands or adjacent private lands within the boundary that are directly affecting the management of national forest lands as well as directly contributing to poor watershed conditions. It is estimated that 20% of these lands, or about 180,000 acres, are in poor hydrologic condition. Those acreages are located throughout the physiographic regions, with about 200,000 acres in the Coastal Plains, 350,000 acres in the Piedmont, and 350,000 acres in the mountains.

As opportunities to acquire such lands in these watersheds arise, the Forest Service has the unique opportunity to making significant contributions toward protecting valuable watersheds, and at the same time, making more land available for timber production and other uses of national forests.

Based on the best information available, top priority could be given to the areas in Western Virginia, Eastern Kentucky, North Carolina and Tennessee Mountains, and some portions of Alabama. Other areas with poor hydrologic conditions in the Piedmont and Coastal Plains can also receive priority based on need.

#### Administration

Each forest in the Region can identify, through the Forest Land Management Planning process, those areas within the boundaries where consolidation is most desirable. Lands that are available for exchange within the boundaries can also be identified. Since lands will be acquired from willing sellers, a tract by tract listing of plots desirable for acquisition will not usually be made, but areas will be identified.

## **V. Anticipated Resolution**

### **Policy:**

--Land ownership adjustment (all activities associated with change in ownership or rights) will be made only after establishment of consistency with Region 8 priority standards (PA).

### **Objective:**

--Annual land adjustment targets for forests will be established within R-8 priority standards (PA).

--The Regional Plan will establish priority standards for land adjustment (PA).

### **Management Standard and Guideline:**

--Resource or support annual targets which are affected by land adjustment will be consistent with forest targets in the lands element (PA).

## Conclusions

All water sources are dependent geographically on sandstone aquifers, which are the main source of the groundwater used.

Over 1990 the water resources were, as predicted, due to a short supply of surface water, particularly in the lower concentrations. The South African River basin was the most affected, where 30 percent flooding and 60 percent drought caused water scarcity and a reduction of 10 percent in gross and municipal water. In the rural areas water quality was poor and there was no improvement in water availability.

The response to forest and tree planting has shown very little effect.

## Global and small catchments: water availability

### Global - free distribution

Geographic land area and GHG levels are the primary factors.

GHG is an flows potential, 1000 million tonnes CO<sub>2</sub> per year, which is equivalent to 1000 million tonnes of water dispersed annually.

Global responses to a greenhouse-gas increase in global climate change were outlined by Chapter 4, section 2. Global concentrations and their resulting projections of carbon dioxide quantities and their contribution to global climate are reported, as well as projections of the responses of the climate system. The projected effects of higher concentrations of water dispersed between distributions are outlined in Table 12.

Global results were predicted, 1990, and categorized as minor, moderate and major. Between 1990 and 2030, the broadly distributed effects of climate change on a major scale are likely to be limited, however, to a major water availability problem. The local and regional scale also identifies a range of effects.

If all the responses are stated there could be a range of responses to help solve their water supply problems. This would include rainfall patterns, tree planting, forest management and soil conservation. If the responses could be integrated, the results could be significant.



## WATER

Issue: Water - If any additional water or improved quality is needed, what should the Forest Service do to encourage this production or improvement?

### I. OVERVIEW

Public comment concerning the water resource was, as expected, very supportive of an abundant supply of clean water, prevention of flooding, and no use restrictions. The South is blessed with ample supplies of water. However, there is seasonal flooding and shortfalls, and many areas suffer from poor water quality due to past and present land uses and municipal and/or industrial wastes. National forests yield very good quality water on the average, but many improvements are possible.

With respect to forest and rangelands in the South, key areas of concern are-

-municipal and small (single family) water supplies;

-sediment production from silvicultural practices;

-past and present land uses which result in poor quality water  
or

increases in flood potential, i.e. mining, abandoned farm and  
construction sites, waste disposal areas.

When 381 responses to a questionnaire <sup>1/</sup> prepared for municipal water managers were analyzed, 41 percent reported moderate or serious water quality problems. Problems in quantity and seasonal distribution of streamflow was reported by 22 and 28 percent of the respondents, respectively. Towns using small forest watersheds reported a higher occurrence of water yield and seasonal distribution problems (see Table 1).

Where water quality was a problem, logging was recognized as a minor factor, based upon all responses. However, for small and heavily forested watersheds, logging is clearly identified as a major source of pollution (33% occurrence) because it is a major activity in this type of watershed. Roads and wildlife were also identified as pollution sources.

Twenty four percent of the respondents stated they could use direct technical assistance to help solve their water supply problems. Only 3 percent of the mangers receive publications containing forest management information. Approximately half the respondents would like to be put on a mailing list to receive forest management information to help solve their identified need in water management

<sup>1/</sup> Report prepared by George Dissmeyer S&PF, SA

Table 1. General areas of water problems identified by municipal water supply agencies.

Problem	Problem Severity	Percent Occurrence
Water Yield	Serious	5
	Moderate	17
Seasonal Distribution	Serious	6
	Moderate	22
Water Quality	Serious	7
	Moderate	34

Sedimentation of streams and reservoirs is a major water quality problem in the South, resulting in part from poorly executed silvicultural practices. Estimates for sedimentation resulting from silvicultural practices on non-federal forest lands are listed in Table 2.

Table 2. Present area and estimated erosion and sediment yield of forest practices on S&P lands. <sup>1/</sup>

Forestry Practice	Approx. Area Treated Each Year - Acres	Erosion Volume <sup>2/</sup> Tons/Year	Sediment Yield <sup>2/</sup> Tons/Year
Logging	4,900,000	.1,470,000	735,000
Skid Trails	200,000	3,600,000	1,800,000
Spur Roads	170,000	4,080,000	2,040,000
Site Preparation by			
Disking	60,000	720,000	360,000
Shear & Windrow	450,000	1,800,000	900,000
Bulldozing	150,000	600,000	300,000
Chop; Chop & Burn	300,000	300,000	150,000
Bedding	60,000	12,000	6,000
Burning or Injection	180,000	54,000	27,000
Totals		12,636,000	6,318,000

1/ Data derived from river basin surveys and the Southeast Area Erosion Data Bank.

2/ Volume of erosion and sediment produced over the recovery period of area treated each year.

Sediment yield from some silvicultural practices, skid trails and roads is excessive. Where suitable, substituting less intensive site preparation practices for some of the disking, shearing and windrowing, and bulldozing will reduce sediment yield from silvicultural practices by 990,000 tons per year. Better location, closure and stabilization of skid trails should save 1,350,000 tons per year. The total potential sediment reduction is 3,870,000 tons per year or a 61 percent reduction in sediment yield from private and industrial forest lands.

This excessive sediment is adversely affecting water quality, fish habitat, and causing downstream sediment damages. The present value of these in stream damages is estimated at \$5,290,000. This value was derived using the RPA value of \$2.00 per ton of sediment and a present value factor of .638 (4 years @ 10% interest).

A variety of reasons have been identified for this excessive sediment yield. Landowners, operators and some foresters lack forest water management information and guidelines and an appreciation for water and forest resource management and the financial benefits resulting from good management practices. In many situations, they appreciate and try to manage forest and water resources, but one or more obstacles interfere. Several obstacles to water resource management have been identified: policy, politics, funding, coordination, professional expertise, economics, local attitudes, equipment availability, labor availability, centralized authority, conflicts between environmental programs, size of state forester organization and its awareness, size of operation, land management quotas, landowner knowledge and vendor knowledge.

Past land uses which resulted in eroded, nonproductive forests, farms and mine sites are still readily evident in much of the South. Within national forest boundaries it is essential that all land now causing a degradation of a usable water resource benefit, be it fishing, municipal supply, habitat maintenance or aesthetic, be improved (see Lands ICO statement for a specific breakdown of types of lands needing improvement in national forests). Also, lands adjacent to many national forests are in poor condition and are causing serious water degradation.

Water use in the South and the demand for useable supplies is expected to increase through the planning period. Shortfalls in Virginia metro areas and Florida are anticipated. As energy and mineral production increase on federal and non-federal lands (See Energy ICO), the water resource, both surface and groundwater, will become an increasingly important consideration in energy development.

## II. FOREST SERVICE ROLE IN SUPPLY AND DEMAND

The Forest Service can directly influence water resource characteristics through actions taken on national forests, adjustments in ownership patterns and land uses. Through State and Private Forestry, direct technical and financial assistance can be offered to states to improve forest practices and water resource values. Research results when applied through federal or state authorities play an important role in yielding investments to maintain or improve the water resource.

At least 381 largely forested watersheds furnish domestic (municipal) and commercial water to about 12,000,000 people in eleven states (excludes Texas and Oklahoma) within the Southeastern area of State and Private Forestry.

Eighty-five of these watersheds serving about 1,200,000 people are on national forest lands. Additionally, the Caribbean National Forest has 10 municipal watersheds serving about 100,000 people.

It's anticipated that unless water quality is markedly improved in some of the major rivers, the demand for municipal water from national forests will increase. Presently there are several hundred special use permits for domestic (untreated) water supplies. These small often poorly maintained systems are a real health hazard to many families.

It is estimated that over 65 percent of the surface water supplies originate within forested watersheds. Use of these lands has a direct influence on the characteristics of the water resource.

### III. SOUTHWIDE POTENTIAL FOR RESOLUTION

The potential for meeting the demand for clean water supplies without excessive flood damage can be met in the South with current technologies, though applications will not be uniform within and among states. Specific to forest and rangelands, several states have implemented pollution control methods through voluntary see 208 programs (PL 95-217). On relative scales of importance, municipal and industrial discharge are still viewed as the most significant and potentially dangerous source or cause of unsuitable water. The greatest potential for improving waters from forest and rangelands is to demonstrate the profitability in conducting land management practices which build more productive soils and maintain a suitable and useable ground cover.

Many federal and state agencies are actively involved in showing landowners how selected land use practices can earn a profit now and in the future, by providing improved water resource benefits. Positive results are being achieved. However, public comment and Forest Service concerns indicate that more federal and state involvement in land use and water supply is necessary to keep pace with increasing demands for more intensive use of land, urban land use changes, increased mineral utilization, and increased water resource demands.

State Foresters could promote and implement a technical assistance program for minimizing erosion and sediment from skid trails and spur roads. In municipal watershed management, State Foresters can offer forest management assistance to water supply agencies. Also, forest land above municipal water intakes could receive concentrated technical assistance in forest management to reduce water quality problems from non-municipally owned forests. Water yield and seasonal distribution problems require storage structures which the state could foster.

#### **IV. POTENTIAL FOR FOREST SERVICE RESOLUTION**

Solutions to water resource problems in southern forest and rangelands are more institutional and organizational than technical, though better technical information is needed. Coordination of federal and state water maintenance and improvement programs offers the greatest potential for Forest Service resolution. Likewise, a more closely administered water resource among the other multiple-use resources addressed by the Forest Service could provide more clean and dependable water resource benefits without greatly increasing public cost.

##### **A. National Forests**

National forests with their relatively long rotation age stands offer the greatest potential for yielding high quality consistent water supplies.<sup>2/</sup>

However, nearly 50% of the lands within national forest boundaries are privately owned and for a variety of reasons, may be producing poor water. Through selective identification of desired water resource benefits, problem land use areas and needed land adjustment requirements, national forests can reshape ownership patterns and rehabilitate degraded lands to produce a more suitable water resource.

Increased national forest participation with federal and state water regulatory and conservation agencies could improve water resources by guiding efforts toward problem areas within national forest boundaries and identifying institutional methods to bring about solutions. Cooperative work in mine rehabilitation with the Office of Surface Mining now underway in Region 9 is one example of problem solving through increased communication and interagency cooperation.

##### **B. State and Private Forestry**

S&PF can help resolve sediment yield and municipal watershed management problems through: the establishment of soil and water staff support to on-going cooperative forestry and other S&PF programs; technical assistance to State Foresters to aid them in addressing these problems; assistance in helping resolve obstacles at regional and national levels; and accomplishing technology transfer.

<sup>2/</sup> Cunningham, R.S. 1979, Regional Forestry/Water Interfaces, Florida's Water Resources -- Implications for Forest Management Society of American Foresters, Gainesville, Florida.

### C. Research

Though the greatest potential for resolution of water resource problems by the Forest Service lies in organizational (administrative) actions, several technical (potentially researchable) topics remain-

- 1) the net effect on a water resource of clearcutting versus selection cutting over a rotation;
- 2) anticipated effects of acid rainfall and increased coal usage in the East and Midwest.
- 3) economic benefits of federal versus non-federal land use with respect to water resource benefits in selected southern watersheds;
- 4) relative environmental impacts (soil loss nutrient reserves, stream morphology) of selected timber regeneration practices.

## V. ANTICIPATED RESOLUTION

### A. National Forest System

#### Policy:

--Establish through inventory and analysis in the Forest Land Management Plan, water management objectives for identified drainages in each basin coded in FSM 2570, R-8 Supplement No. 28 (PA).

#### Objective:

--Participate with the Chief's office in establishing national water management policy and direction for implementation by State and Private Forestry (PA).

--Forest targets in water meeting quality goals (Y77) will be established by coordinating effects and opportunities in other forest targets (PA).

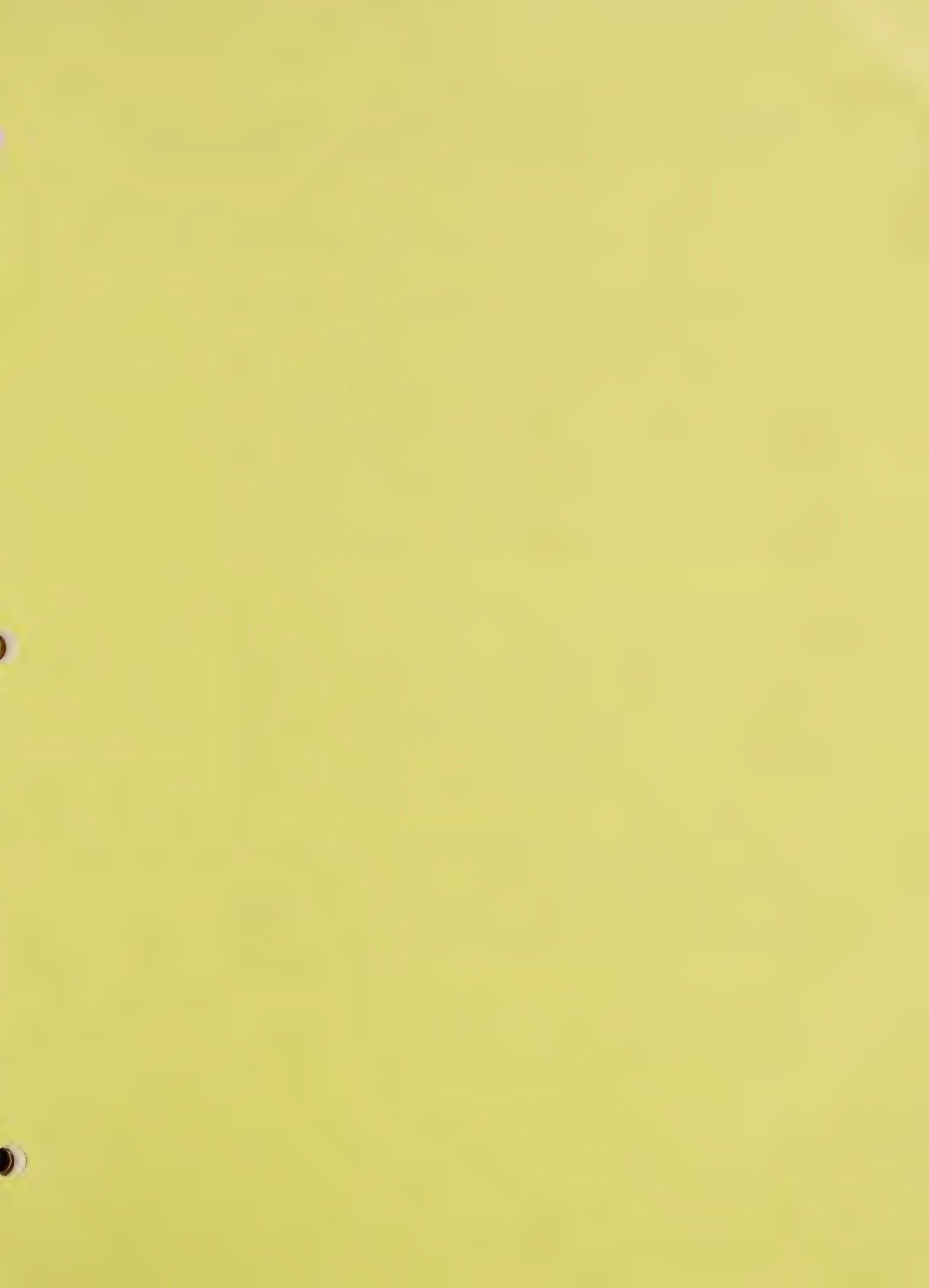
#### Management Standard and Guideline:

--Before national forest funds are expended to evaluate or improve water resource benefits, all available institutional or organizational methods to accomplish the objective will be evaluated and results documented in Forest Plans and annual

--budget proposals (PA).

--Special uses for domestic water supplies will only be issued after all available alternatives to secure safe, treated drinking water are explored (PA).







## VISUAL QUALITY

Issue: The Forest Service systematically promotes scenic values on national forests. Should this effort be changed, and if so, how and where?

### I. Overview

#### A. Visual Resource for the Southern Region

Scenic and visual values in the South represent one of the most significant of the natural resources available in this section of the country. This resource probably has the widest distribution of any of the principally recognized natural resources; yet, the very essence of scenic values are those characteristics which make a given view of a landscape unique. Thus, variety is perhaps the key factor in any broad consideration of the natural scene. The South, with its diverse geographic spread from the Appalachians and Ozark Highlands, through the Piedmont to the Coastal Plains of both the Atlantic and the Gulf of Mexico, yields an extreme wealth of varied and outstanding scenic attractions which compares favorably on an international scale. Puerto Rico which is also located within the Southern Region provides another uniqueness of landscapes and scenic values.

Within this frame of reference, the current supply or availability of landscape values, based on a perfunctory review, would appear to be almost limitless. However, a more perceptive analysis will readily show that high quality landscape values are most definitely limited. The key factor here is the hierarchy or priority of landscape attractions which exist for most people. Unfortunately, many of those areas at the more desirable end of the scenic value spectrum in the private sector have and are being rapidly diminished or threatened as a result of urban sprawl and commercial development.

This aspect of supply of the natural landscape, that is, its depletion, has an inverse relationship on demand. With increasing migration to the sun-belt states of the southeast expected to continue, increasing numbers of people will be demanding more from scenic landscape values that are tied to a fixed and limited land base. This is more evident in Puerto Rico where the Caribbean National Forest is surrounded by a ring of urban centers.

## Conclusion

As advancing technology tends to promote increased leisure time, amenity values such as sightseeing and scenic attractions will play an increasingly important role. Although the general availability of high quality scenic lands is varied and extensive, continuing population shifts will erode and shrink the natural landscape base. The supply is definitely limited and finite where high quality landscapes are being considered. Depletion will be accelerated by the combination of increased demand resulting from population growth, and conversion of the land base to accomodate the utilization needs which accompany an expanded population.

### B. Sub-Regions

1. Mountains - The dominance of the landform in mountinous areas of the South is inherently significant to scenic considerations. Quite obviously, they can be seen, and one's observation possibilities are greatly enhanced from such vantage points, given resonable clarity of the atmoshpere. Thus, in any sub-regional analysis of visual values, the mountains become of paramount importance. This factor is significant in a negative, as well as a positive aspect: adverse impacts on either landform or vegetation are almost always readily apparent from background, as well as middle ground or foreground views.
2. Piedmont - The Piedmont carries much of the visual sensitivity as does the mountains. However, as the prominence of the landform diminishes, so does the opportunity to see from areas located in the Piedmont. Foreground and middleground areas are primarily sensitive visually, with background of somewhat less concern. However, greater concentrations of the population are located within the Piedmont than in more mountainous areas, thus, affecting demand aspects of natural landscape attractions.
3. Coastal Plain - Observation of scenic values in these areas of the South primarily occur in the foreground, and to a limited degree, from middleground views. As with the Piedmont, more people occupy the Coastal Plains. Therefore, demand for visual values is significant even though opportunities for increased visual variety and more distant views are restricted with the loss of significant landform and the presence of extensive vegetative screen.

## Conclusion

Scenic values are significant in all sub-regions. Where the amount of topographic relief diminishes an increase in population occurs, thus balancing the demand for visual values. The management of all the visual values is important.

## II. Forest Service Role in Supply/Demand

The Forest Service has a significant role in the supply aspect of providing natural landscapes available for scenic values. Although national forest lands only constitute 3.4 percent of the overall southern forest, this total of 12.5 million acres is dispersed throughout each of the southern states and Puerto Rico and is well represented within each of the sub-regions.

Use and enjoyment of the visual resource is directly coupled to recreation use of the national forests. Projections for land-related recreation activities indicate large increases in participation in the South will occur. 1/ Surveys have also shown that "scenic beauty" was the reason most often cited for visiting national forests. 2/

Through its own inventory system, (the National Forest Landscape Management Visual Management System) the Forest Service is able to determine what part or percentage of its own lands could qualify to provide different degrees of visual resource values. It would be difficult to compare forest lands with private or state ownership on a qualitative basis due to lack of a comprehensive inventory in the latter area. The following table provides an indication of the inherent capability of national forest lands to produce visual resource products or outputs in acres of Variety Class 3/ (quality), by subregion:

SUB-REGION CLASS C	VARIETY CLASS A	VARIETY CLASS B	VARIETY
Mountains*	532,463	4,552,883	2,657,936
Piedmont	29,075	478,882	1,184
Coastal Plain	<u>132,379</u>	<u>1,055,959</u>	<u>3,124,052</u>
Total Southern Region	693,917	6,037,724	5,783,172

2/ Source & Definition

\*The Caribbean National Forest lands are included in the Mountain sub-region.

### Conclusion

The demand for scenic values will continue to increase in the Southern Region. The supply of quality landscapes inventoried by the Forest Service on its lands is a small percentage of what could be managed in the Southern States as a whole.

### III Southwide Potentials for Issue Resolution

A. Private Lands - The potential for private land contribution to resolution of this issue is impressive. Most of the 323 million acres of forest and rangeland in the South are privately owned. The following chart illustrates this acreage breakdown for the commercial timberland component of this total:

#### Acres of Commercial Timberland in the U.S.(Million Acres)<sup>4/</sup>

##### Private

Industrial	35,754,000
Non-Industrial	132,937,000

##### State

State	2,519,000
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##### Federal

Forest Service	10,954,000
Other	3,346,000

This considerable potential, of course, must be tempered by what might be described as the incentive factor. Private land owners, either small non-industrial holders or large corporations, must recognize the need for profit to stay in business. Generally, it is conceded that little opportunity exists to realize a profit from the nature of this resource, except for a very few outstanding attractions which have been commercialized into paying operations.

However, in recent years, several larger corporations in the industry have begun to recognize some of the public relation values that can be realized through land management practices which include consideration of visual values. Some have developed their own methods to identify and protect visually sensitive areas under their control; others have shown an interest. As with Forest Service lands, some type of inventory is required to establish what the needs and opportunities are. For example, many thousands of acres in the Coastal Plain, regardless of ownership, are essentially unseen and thus, are of minimal significance to the viewing public. Other highly visible areas, such as prominent ridges, mountain tops, and roadside/streamside areas can be extremely sensitive. These are the areas where lack of reasonable consideration for visual values in resource management can generate much criticism and ill will with the viewing public, regardless of who owns the land.

B. State Lands - These lands generally recognize scenic values in their current management programs. In fact, visual quality frequently has been an overriding factor in the acquisition and set aside of many such state lands. However, few states have developed any formal system for evaluating the visual resource. For some, this has been due to lack of conflicting management needs. However, state forest holdings which can be categorized as "working forests", e.g., where timber or other commodity resources are harvested, should consider the advantages of employing a systematic approach to visual resource management similar to that employed nationally by the Forest Service.

C. Other Federal Lands - The preceding discussion regarding state lands is equally applicable to other federal lands in the South, with various qualifications. The BLM, for example, already employs a method similar to that used by the Forest Service. The NPS management mandate essentially precludes the possibility of conflicting resource management. TVA is beginning to move into this aspect of management for their lands in selected areas.

Conclusion: The potential for issue resolution by those landowners other than the Forest Service essentially lies with the large industrial landowners throughout the South. Corporate forest managers, however, must be able to justify any costs incurred which do not directly apply to commodity production profits. The area of improved public relations holds the greatest promise for industry to increase its consideration of the visual resource to be included as a part of its total management approach. A substantial contribution towards meeting the regions capability to resolve the issue dealing with landscape and scenic values is thus dependent on this facet of the potential supply.

#### IV. Potential for Forest Service Resolution

The potential for Forest Service contribution to resolution of this issue lies primarily with their historical commitment, and experience with a systematic method to integrate visual resource management into all other facets of forest and rangeland management

The regional plan can set standards as to the difference between the level of initial visual quality levels and/or existing visual condition and the visual quality objectives for each alternative. This may be stated in acres of each Visual Quality Objective 5/ by variety class. Doing so will, in effect, resolve the issue once the preferred alternative is identified.

The degree of resolution is dependent upon whether such standards are set on a regional, subregional, or forest by forest basis. This Analysis of the Management Situation provides information on feasible ranges of alternatives on a subregional basis.

A. Trends - Much of the basis for continuation of previous commitment is dependent upon a positive projection of future demand and support for appropriate consideration and management of scenic values. Trends in the demand for, and use of, the visual resource depend upon population, public interest and concern for scenic quality and accessibility to the resource, and is most closely reflected by recreation use of the National Forests.

Such trends for increasing public concern for visual quality are influenced by rising levels in education, heightened environmental consciousness, the continuing disappearance of wildlands, increasing visual access, overall increase in economic affluence, and the subtle, but unrelenting increase in alteration of one's daily living and working environment.

B. Assumptions - The following listed assumptions will help provide a basis for future projections of concerns and use:

1. Recreationists and principal route travelers will demand higher quality of scenery management with a minimum of obvious modification due to increased environmental sensitivity and to high costs they sustain to travel and view the scenery.
2. There will be an increase in the numbers of people who visit National Forests in the South with the principal objective of enjoying the scenic resources.
3. There will be increasing public demand to correct damaged visual resources to acceptable levels. This demand will be greatest on public lands.
4. Continuing modification of non-national forest lands will decrease the availability of large-scale views of natural-appearing landscapes, and thereby increase the demand and desirability of such national forest landscapes.
5. As cities and smaller residential areas become more heavily modified for intensive human habitation, the contrast between these landscapes and natural-appearing landscapes will increase. This will increase the demand and desirability for the more natural-appearing landscapes.
6. Increased development and housing on adjacent and private lands within national forests will increase visual exposure of national forests and create more public resistance to management activities which cause the landscape to appear unnatural.

7. Increased emphasis and participation in dispersed recreation on national forest lands will have the same effect.
8. There will be increased mass media display of the visual resources of the national forests through movies, television, magazines, books, and newspapers which will allow millions of vicarious sightseers to see not only the distinctive scenery along travel routes, but also the lands that are difficult in accessibility.
9. There will be continuing emphasis on individual expression of creativity through art and photography which result in more critical perceptions of the landscape.
10. All above demand increase trends will be tempered by public concern for energy commodity production on National Forests.

C. Available Supply of National Forest Visual Resource - The available supply of the visual resource at any point in time is measured in acres (quantity) and by variety class and the relative degree of visual alteration at that time (quality). These measures indicate trends in the quality of the resource and reflect visual resource stewardship. Since variety classes are almost totally inherent characteristics, they remain constant.

In analyzing the scenic values of the national forests, the Forest Service has made extensive use of its Visual Management System, <sup>6/</sup> an internationally recognized systematic method for evaluating, quantifying, and qualifying wildland scenic values. In this process, an early evaluation of scenic values in the field leads to a finding of "Initial Visual Quality Objectives." <sup>7/</sup>

The available supply of the visual resource is based directly upon Initial Visual Quality Objectives. These objectives reflect acreages, variety class, and maximum degree of proposed landscape alteration. This data reflects a systematic professional judgment of the amount of landscape alteration which will be accepted by the public. This is a preliminary type of recommendation made before costs to other resource outputs are evaluated.

SOUTHERN REGION - INITIAL VISUAL QUALITY OBJECTIVES (ACRES)8/

MOUNTAIN SUB-REGION (7,743,282)

	Variety Class A	Variety Class B	Variety Class C
*Preservation	115,487	332,298	175,108
Retention	282,680	600,154	
Partial Retention	3,921	1,142,1841	135,550
Modification		2,148,811	367,856
Maximum Modification		600,154	1,839,079

PIEDMONT SUB-REGION (509,141)

	Variety Class A	Variety Class B	Variety Class C
*Preservation	8,742	6,497	
Retention	5,574	15,093	
Partial Retention	3,271	63,785	
Modification		322,361	7,370
Maximum Modification		31,544	44,901

COASTAL PLAIN SUB-REGION (4,312,395)

	Variety Class A	Variety Class B	Variety Class C
*Preservation	125,778	69,717	
Retention	102,060	35,937	
Partial Retention	7,189	117,872	8,624
Modification		212,244	146,621
Maximum Modification		35,936	3,449,912

\*Currently classified wilderness. Initial V.Q.O.s are not recommended for preservation in accordance with NFMA

Only 20 to 25 percent of NFS land acreage in the Southern Region is estimated to have any noticeable ground disturbance at any one point in time as the result of management activities. These effects vary from slight to heavy visual impacts spread across all three variety classes in all Visual Quality Objective areas except Preservation. Most of these impacts will result from timber-related activities; however, other management activities such as mineral extraction, right-of-way easements, and development of recreation areas will contribute to this disturbance.

Of the 20 to 25 percent of Forest Service acres that will be impacted at any one point in time, many effects will be natural appearing and tie back to the characteristic landscape. Some impacts will not meet the definitions of the Visual Quality Objectives, either because of the nature of the impact itself or because of the duration of time required for mitigation. Most of the unmet Visual Quality Objectives will fall into the latter category.

#### D. Visual Quality in the Region

##### Existing Variety Class in R-8 NF lands

5.5% DISTINCTIVE SCENERY (A)
48.5% COMMON SCENERY (B)
46.0% MINIMAL SCENERY (C)

Demands for scenic quality and concerns about disposition of scenic quality potentials are increasing and are expected to continue to increase during the planning period.

About 21 percent of the Region is estimated to be classified as Sensitivity level 18/ and less than 52 percent as Sensitivity Level 3.

##### Existing Sensitivity Levels in R-8 NF lands

21% HIGH SENSITIVITY
21% MEDIUM SENSITIVITY
52% LOW SENSITIVITY

Visual Quality in the Region has steadily improved over the years, reclaiming the barren eroded lands through reforestation programs. Currently, there are approximately 11.5 million acres in the regulated land class which is managed for sustained yield (or approximately 91% of the total Forest Service lands in Region 8).

Total visual quality in the region involves proposed shifts both upward and downward on the visual quality scale, depending on Sensitivity Levels. A slight trend to increase sensitivity levels will take place over time which will result in a slight increase of Retention and Partial Retention VQO Areas. This will be a direct result of population growth, increased roads and trail developments, and increased use of the forest by the public. In areas where vehicular travel will be reduced because of the increased expense of travel, the sensitivity level will decrease. The Forest Service Visual Management System tends to increase visual quality levels where viewed by increasing numbers of visitors, and allows

reductions in visual quality in areas that are seldom viewed by forest visitors. Visual quality (Variety Class) in Retention and Partial Retention areas may increase as areas are managed for larger sized (older) trees. This should not result in a change in actual variety class categories, but only a modest increase in the quality within a specific category.

Problems in maintaining the visual resource are basically conflicts between commodity production (primarily timber) and visual quality. Commodity production requires landscape alterations. There is increasing difficulty in maintaining or improving productivity of both types of resources simultaneously.

Charting of timber output vs. acres of visual quality level shows an increase in the latter for those high/moderate commodity levels (RPA Levels I, III, V) for the period FY 81-85. This unusual relationship may be the result of more intensive management of a reduced number of acres where heavier funding is available for mitigation of negative projections and associated impacts which would normally be the reverse. If the present supply of visual quality is to be maintained, there will be some reduction in timber harvesting at any one point and time. However, availability of harvest will remain the same.

#### Conclusion:

Existing management direction generally recognized Initial Visual Quality Objectives as the upper limits of visual constraints. After consideration of other values, existing management direction normally would allow for a reasonable reduction in visual quality with impacts primarily limited to areas inventoried in the "Modification" and "Maximum Modification" visual quality levels. The Southern Region, NFS, has a good base of capability to produce visual resource outputs. 5.5 percent of all lands have the potential to provide top quality scenery (i.e., Variety Class A) and 46 percent of the Region has low inherent capability (Variety Class C) to do so. The remaining 48.5 percent represents the middleground (Variety Class B) between the two extremes.

## V. Anticipated Resolution

A. The Regional Plan, in conjunction with the collective Forest Plans, has the potential to resolve the visual quality issue.

Resolution can be further facilitated through the continuing application of NF Visual Management System as it is incorporated into the Land and Resource Management Planning System. Visual Resource Management measures the public concern for scenic quality, classifies the degrees of variety in the landscape, and recommends visual management goals. Management objectives for soil, water, air, wildlife, recreation and fire control may often reinforce visual goals as these resources and activities are considered in the development of management alternatives.

If the issue is to be confronted directly, the question whether or not the Forest Service should continue to promote scenic values must be answered. Additionally, if current efforts should be changed, how and where should this happen?

### Policy:

--The Forest Service will continue to systematically promote scenic values and encourage recognition of the visual resource in State and Private Forestry actions (PA).

--The visual resource should be managed in the national forests, subject to appropriate reduction in visual quality objectives in selected areas as necessary to accommodate other resource management with a minimum of conflict (PA).

### Management Standard and Guideline

--Limit reduction of visual quality to areas inventoried at a visual quality level "modification" or "maximum modification" whenever possible (PA).

## VI. Notes on Implementation and References

Resolution will be monitored for the following outputs, activities, and management effects using the assigned MIH codes:

<u>Code Definition</u>		<u>Unit of Measure</u>
A03	<u>VISUAL, RESOURCE INVENTORY</u>	<u>ACRES</u>
	This activity includes the work defined in codes 317 through 319. The Unit of Measure for this activity is the total of work in codes 317-319.	
317	<u>VISUAL QUALITY INVENTORY</u>	<u>ACRES</u>
	This activity includes the determination of inherent visual quality (variety classes) and sensitivity levels for the purpose of developing basic data and interpretations needed for land and resource management planning. This activity also includes the development of those interpretations termed inventory visual quality levels.	
318	<u>VISUAL ABSORPTION INVENTORY</u>	<u>ACRES</u>
	Inventory of visual absorption capacity for the purpose of developing basic data and interpretations needed for land and resource management plans.	
319	<u>EXISTING VISUAL CONDITION INVENTORY</u>	<u>ACRES</u>
	Inventory of existing visual condition of the landscape for the purpose of developing basic data and interpretation, provides a base from which to measure change, needed for land and resource plans.	
A03a	<u>VISUAL RESOURCE MONITORING</u>	<u>REPORTS</u>
	This activity includes monitoring the effects of land use on the visual resource. Includes activities initiated for the purposes of management decision, benchmark, or compliance monitoring.	
A03b	<u>VISUAL RESOURCE PLANNING</u>	<u>ACRES</u>
	This activity includes developing and administering plans for visual resource projects. Includes plans prepared for demonstration areas, and other activities that display developed techniques or methodologies for advanced visual resource management. Includes contracted programs, and memos of understanding with agencies or universities. Includes the development	

Code DefinitionUnit of Measure

or participation in project EAR's and/or EIS's, rehabilitation program plans. Unit of Measure is number of planned acres.

A04    VISUAL RESOURCE IMPROVEMENTACRES

Activities carried out on actual rehabilitation to restore facilities, lands and resources to the visual quality objectives adopted in approved management plans.

OutputsCode DefinitionUnit of MeasureW20    LANDSCAPES AT VARYING LEVELS OF VISUAL CONDITIONS    ACRES

Visual resource outputs are expressed in terms of landscapes in varying degrees or levels of natural appearance. These levels of visual condition may result from activities implemented to meet other resource goals, improve or maintain visual conditions or a combination of both. They may also be the result of natural changes only. The unit of measure is acres of visual conditions by variety class.

W21    Landscapes in which natural changes only have taken place.    ACRESW22    Landscapes in which management activities are not evident to the average person unless pointed out. They appear to be unnoticed. Quality of the landscape character remains the same or is upgraded.    ACRESW23    Landscapes in which changes are noticed by the average forest visitor, but they do not attract attention. The natural appearance of the landscape remains dominant. Quality of the landscape character remains the same or is slightly less.    ACRESW24    Landscapes in which changes are easily noticed by the average forest visitor and may attract attention as focal points in the landscape.    ACRESW25    Landscapes in which changes are strong and would be obvious to the average forest visitor. They appear to be major disturbances and stand out as a dominating impression in the landscape. When viewed as background they are shaped and otherwise blended sufficiently to resemble natural patterns.    ACRES

Environmental Effects

<u>Code Definition</u>		<u>Unit of Measure</u>
Y72 <u>IMPROVED VISUAL CONDITION</u>		<u>ACRES</u>
	Those acres of land where visual condition is improved by projects implemented with the intent of meeting other resource goals. These would also include acres that had management plans implemented on them where the only objective was to improve existing visual conditions. This category would also include acres that have improved through natural processes into a higher visual condition category during the reporting period.	
Y73 <u>MAINTAINED VISUAL CONDITION</u>		<u>ACRES</u>
	Those acres where visual condition has been maintained at relatively the same level during the process of applying management activities, to meet resource goals and produce outputs. It would also include acres of no management activity where the visual condition is remaining constant.	
Y74 <u>DECLINED VISUAL CONDITION</u>		<u>ACRES</u>
	Those acres that have declined in visual condition due to management activities or natural disaster. Include the acres where visual condition has measureably declined to a lower visual condition category during the reporting period.	

Footnotes/References

1. - Page 5: HCRS 1977 National Outdoor Recreation Survey
2. - Page 5: 1980 RPA Update, Page 110
3. - Page 5: NFLM Vol. 2, Chapter 1, page 12 (USDA Handbook No. 462, April '74)
4. - Page 8: ? Forest statistics of the U.S. 1977 USDA-FS
5. - Page 11: Reference Footnote 3, page 28
6. - Page 16: Reference Footnote 3
7. - Page 16: Reference Footnote 3
8. - Page 17
9. - Page 19: Reference Footnote 3, page 18

The statistics used in this report are based on discussions with Forest Landscape Architects and available inventories from the following listed Forests: Chattahoochee-Oconee NFs, NFs in South Carolina, NFs in North Carolina, Ouachita NF, Caribbean NF, Daniel Boone NF, Cherokee NF, NFs in Texas and the NFs in Florida. From these inventories trends and assumptions were projected for the different subregions.







## PROTECTION

**Issue:** Protection - How much and what kind of protection is needed to produce the South's share of goods and services from forest lands and rural areas while maintaining environmental values, protecting endangered species, personal and public property, and human life?

### I. OVERVIEW

Basic programs to assure protection to all elements include fire protection, pest control, and law enforcement. Protection of rural areas from law violations and from losses and damage caused by fire, insects and diseases, and potentially increases resource outputs.

The southern forests with their varied topography, fuel types, climate and fire occurrence frequencies offer a challenging opportunity for forest fire protection. Fuel types vary from the pine forests of the Coastal Plains and the pine-hardwood of the Piedmont to the pure hardwood types in the mountain forests. Each has a distinctly different response to topography and weather.

Fire suppression techniques of federal, state, and local agencies employ a variety of initial action resources, including tractor plow units, hand tools, helicopters, air tankers, and ground tankers. These are employed separately or in combination. Recent years have seen a decline in pickup manpower and a greater reliance on specialized equipment and human resource program manpower. More rigid physical fitness requirements, tighter training requirements, and a greater emphasis on contracting have caused the manpower dilemma. The Region now is an integral part of the total mobility effort nationwide, both sending and receiving resources.

Fire occurrence shows recognizable fluctuation by seasonal severity, but not by prevention efforts. Specialized localized efforts have been successful but expensive, and the results not permanent. Successful, long lasting results have been an elusive desire for many years. Man-caused fires are the primary concern in this Region. Most of these are incendiary fires.

Fuel management in the Southern Region consists of reduction of natural hazards. Prescribed burning is the preferred and proven method of doing this. The effect on the protection effort is positive because of the reduction of fire intensity in treated areas. Burning cycles of 3 - 5 years are required. Prescribed fire for other resource management objectives benefits the protection effort in the same positive way.

## II. FIRE PROTECTION - REGION 8 NATIONAL FORESTS

On national forest land in the Southeast, fire protection has been about 85% effective in meeting protection goals in recent years. With overall Regionwide program investment averaging \$10 million, the 1978-80 burned area has been held to about 20,000 acres per year.

On the 12.5 million acres under protection, in a season of average severity, we invest about \$0.80 per acre in fire protection. About 1.6% are burned with an estimated resource value change of \$40 per burned acre for an overall Regionwide average damage of \$800,000.

Damage sustained in plantations and young growth often exceeds \$200 per acre. Also, some benefits - especially to wildlife are created by the typical burn.

Seasonal severity is unpredictable, and results in damage at least 400% of average about one year out of six. On a basis of the most severe single season in 20 years, damage may exceed typical levels by a factor of ten.

These factors result in a program that has some potential for "overkill" (excess suppression capability) during normal seasons - but inadequate resources for economic suppression during bad years. Overall, analysis indicates the program is close - possibly 10%-15% below - the desired level of least cost plus net damages. This estimate is believed valid in 1979 dollars and for existing average resource outputs Regionwide.

This level of fire protection will be inadequate in the future for two reasons:

1. Intensive resource management to meet higher demands for timber, water, and recreation that are subject to fire damage will result in higher values and warrant more effective protection.
2. Further development of residential improvements within or adjacent to wild land areas will require more intensive (and costly) fire protection for structural exposures.

The Prescribed Fire Program, building to about one-half million acres per year (nearly half the National acreage of prescribed fire by the Forest Service), has had significant effects on resources.

Of the 1980 total of 499,000 acres, timber and wildlife have accounted for 62% of the acreage, with the remaining 38% being planned and financed by fuels reduction. This level of burning facilitates the control of wildfires and restrains the amount of damage done by wildfire. Costs are estimated at \$5 per acre average (\$2.5 million total). An optimum annual program level is about 750 thousand acres.

Future constraints on using prescribed burning include air quality standards (either state or federal air management regulations may preclude any or all application of fire), environmental concerns, or external or internal political or policy decisions which limit the program.

There are no known alternatives to replace prescribed burning that are economically and environmentally acceptable.

In the absence of an aggressive, significant prescribed burn program, the fire protection effort would be much more expensive and less effective. And if fire protection is less effective than the present level, landowners and investors cannot be expected to finance the resource outputs needed from southern forest lands.

### III. S&PF RESOURCE PROTECTION

The Rural Fire Prevention and Control Program assists State Forestry Agencies in protecting forests and related watershed and range lands from wildfires in order to increase supplies of timber products, enhance the quality and quantity of water flows, maintain desirable habitat for wildlife and fish, provide other multiple-use values and reduce structural and facility fire losses in rural areas.

Regionally, there are 250 million acres of S&PF lands that qualify for protection under the Cooperative Forestry Assistance Act of 1978. In calendar year 1979, there were 52,080 fires on S&PF lands burning 537,534 acres. This was a noticeable reduction from the 5-year average of 76,575 fires and 1,166,562 acres burned.

Assistance to rural communities of under 10,000 population is now a part of the Cooperative Forestry Assistance Act. Under this act, communities receive assistance in organizing, training, and equipping rural fire fighting forces.

Federal excess property is made available to rural fire departments, and in 1979, there was \$8,833,384.00 worth of this property available for local use.

Protection of rural lands from fire serves to potentially increase timber and other resource outputs and prevent loss of lives and property. The protection of rural lands is a public responsibility. Many public benefits are derived from rural lands, and fires occurring on these lands, for the most part, are man-caused. The help of both state and federal government agencies is essential to protect these lands from wildfire.

Total Fiscal Year 1980 budget for fire protection totalled \$84,764,353.00 including both federal and non-federal funds. Cost for such protection within the state and private rural area lands equalled 33.9¢ per acre.

#### IV. MAJOR AREAS OF CONCERN ON ALL PUBLIC AND PRIVATE LANDS

1. Prescribed burning will be constrained or eliminated by one or a combination of:

- a. State regulations intended to provide pristine air quality over Wilderness areas.
- b. Other agriculture or business/industry absorbing increments of PSD currently assigned to PB
- c. Internal or external qualifications or regulations that lower quality or raise costs of PB to the point where the program is killed.

2. With no known alternative to PB, drastically curtailing the program would result in:

- a. More acres of wildfire/year.
- b. More smoke than in the current mix of wildfire and PB.
- c. Higher intensity fires.
- d. More damage to resources.
- e. Increased threats to structures, especially residential.
- f. Higher cost firefighting and danger to firefighting personnel.

3. Increasing costs and demand for alternative application of energy may allocate scarce fuels to other uses. At the same time, current trends in technological developments and manpower utilization dictate the substitution of machines for crews.

4. Residential, recreational, and even business or industrial occupancies are increasingly located within or adjacent to wildland fuel situations. Fire management operations are impacted as follows:

- a. Increased activity in or next to wildland fuels results in higher numbers of ignitions (more fires).
- b. Suppression resources must be diverted from normal control of fire perimeter increase to selective protection of structures. This requires additional resources (and costs) to maintain similar program effectiveness.
- c. Structures may cause, or become involved in, the spread of wildfire.
- d. In extreme situations, all efforts to control fires are stopped to concentrate on evacuation - protecting human life.
- e. Presence of structures hampers deployment of tractors or air tankers, and results in decreased effectiveness at the very time it's most needed.

Overall, legislation is needed to require appropriate standards for protection of subdivisions, developments, etc.

#### V. RESOURCE PROTECTION - PEST MANAGEMENT

Insects, diseases, noxious weeds, and destructive animals can kill or impede the growth of desirable vegetation, rendering forest sites unsightly and unproductive. Insects and diseases particularly cause severe mortality and growth loss of the South's growing stock. The annual mortality of 1.1 billion cubic feet from all causes averages 10 percent of the net annual growth of growing stock on commercial timberland. Put another way, this mortality represents about 17 percent of the timber harvested in the South each year. Insect-and disease-caused mortality amounts to nearly 200 million cubic feet of timber loss each year in the 13 southern states. Over 500 million cubic feet are reported as mortality due to unknown causes. Much of this is the result of unrecognized insect and disease problems.

An extremely important aspect of pest management in the South is the protection of seed orchards and nurseries, which are producing improved growing stock to increase the future timber yield.

Forest pests can also weaken trees at recreation sites (increasing the hazard to people and property), and can denude recreation sites of desirable vegetation. Noxious weeds and brush on timber sites exclude or compete with seedlings and saplings, resulting in a substantial decrease in site productivity and tree growth. Undesirable vegetation results in increased fire hazard and greater fire-caused losses and control costs.

The current RPA program calls for the South to provide 35 percent of the nation's timber supply by the year 2000. An anticipated timber supply shortfall is predicted for the South. In order to help reduce this shortfall, pest management programs must be strengthened. The methods available for the control of these pests and for reducing pest-caused losses are varied, but generally they fall into one of the following four groups: pesticides, mechanical treatment, cultural management, and biological control. Often more than one method may be effective or partially effective in controlling a pest. It is the Forest Service policy and practice to use "Integrated Pest Management" that, is to use the most effective mix of pest control methods available.

## VI. LAW ENFORCEMENT - PUBLIC AND PRIVATE LANDS

### Overview

Adequate enforcement of applicable laws for protection of persons, natural resources, and public and private improvements is a concern of all. During recent years, the protection of people and their property has become an increasingly large problem, with increased vandalism, rowdyism, assaults, thefts, alcohol and drug abuse, and spreading disregard for the rights of others.

The South has more people than any other Region, but the factor having the greatest impact is the distribution of these people. No other region has its population so evenly distributed with most of the population located within or adjacent to rural areas. This factor plus the fact that the South is the fastest growing region of the country creates protection problems for people, property, and natural resources.

Until the 1960's, the main law violation problem of Southern Forests was incendiaryism. Now sizable percentages of the total job involve recreational use, timber, wildlife and range violations, occupancy, theft, and destruction of property. The most serious crimes are those against people. Drug and alcohol abuse and other offenses that were formerly considered urban type problems are common and are rapidly increasing.

The development and maintenance of public confidence in law enforcement agencies is essential to the success of the organization. A key factor is how well law enforcement responsibilities are met.

## VII. POTENTIAL FOR RESOLUTION

Federal, state, and local agencies are committed to providing protection to forest and rural areas of the South. The degree of protection required could best be resolved by an economic analysis of protection programs to determine the most cost effective service to be supplied. Methods to be used and intensity of protection would be established by the analysis.

## VIII. ANTICIPATED RESOLUTION

### Policy:

Continue present protection activities, fire, insect and disease and law enforcement at their current funding levels within each RPA Alternative and the high and low bound RPA Program.

### Objective:

Within 1-year of implementation of the Regional Plan complete an economic analysis to determine the "degree of protection required to assure adequate protection." (A possible research study)

### Management Standard and Guideline:

No new standards or guidelines are necessary.

## VIX. Note on Resolution

It was concluded that "Protection" could be addressed under current management direction by execution of existing administrative authorities and was not suitable ICO for the Regional Plan.







## WILDERNESS

Issue: Wilderness - How much of an enduring wilderness resource is needed on national forest lands and how should the Forest Service respond to the demands on the resource?

### I. Overview

#### A. Region Wide

There are many uses and values of wilderness. They are areas where "the earth and its community of life are untrammeled by man, where man himself is a visitor and does not remain." Wilderness "has outstanding opportunities for solitude or a primitive and unconfined type of recreation." Other values of wilderness may be ecological, geological, scientific, educational, scenic, or historical. Outside wilderness, the natural scene has been modified through commodity use, commercial uses, agriculture, etc. Wilderness gives us areas that are primarily affected by the forces of nature and the "imprint of man's use is substantially unnoticeable."

There are 33 wilderness areas totaling almost two million acres on federal lands in the regional planning area. The Forest Service administers twelve of these areas totaling 149,423 acres and the Park Service and Fish and Wildlife Service has jurisdiction over the other 21 areas. Eight percent of the wilderness acreage is in the national forests. This acreage amounts to one percent of the total national forest acreage.

#### Wilderness Areas in the Southeastern U.S. by Sub-Regions, Managing Agencies and Acres as of July 1980.

##### Agency

Sub-Regions	National Forest Service		National Park Service		National Fish and Wildlife Service	
	Areas	Acres	Areas	Acres	Areas	Acres
Ozark Highlands	2	24,886	1	36,000	0	0
Mountains	9	101,105	0	0	0	0
Piedmont	0	0	1	79,019	0	0
South Central						
Coastal Plain	0	0	0	0	3	8,300
Southeastern						
Coastal Plain	1	23,432	2	1,234,000	14	440,700
TOTALS	12	149,423	4	1,349,019	17	449,000

Two wilderness areas were classified in 1964 and 10 were designated in 1975. Since 1975 wilderness use on these 12 areas has increased at an average annual rate of five\*\* percent. This compares to a 7 percent annual national average since 1960. Use is expected to increase about 2 percent\* nationally for the next several decades. Based on regional increases the past five years, use in the Southern Region will probably increase 4 percent annually, or twice the national average.\*\*\*

Nationally in 1978 there were about 8 million visitor days of use on national forests Wilderness compared to 0.2 million in the Region. Use on other agency wilderness amounted to several hundred thousand visitor days. The two major wilderness areas on other agencies in the South--the Everglades, and Okefenokee--probably support one half of the wilderness use in this Region.

Most of the wilderness use is recreation use within wilderness. For the rest of this paper we will consider the wilderness use figures as recreational use within the wilderness.

Future recreation demand on national forest land will be influenced by population changes, the average age of the population, additional units added to the NWPS both on National Forest and other agency lands and management restrictions. Even though the Okefenokee and the Everglades are contain about 1.6 million acres of wilderness and probably get 50 percent of the total wilderness use in the Region, these areas cannot be relied on to keep pace with the demand for recreation use in wilderness. Primitive recreation use in these areas is necessarily water-based, however, much of the demand for primitive recreation is for land-oriented activities such as backpacking and camping. Total visitor use is also limited in the Okefenokee.

\* From RPA Assessment

\*\* From RIM Data

\*\*\* Based on an analysis of current and projected use--see footnote in chapter III

New wilderness areas generate additional use but can also be expected to relieve use pressures on adjacent areas. This will not be the case if the Smoky Mountain National Park is added to the NWPS. This National Park is already well known and is one of the heaviest used parks in the Nation. It is possible that use may have to be lowered in the Park if it is designated wilderness. If this happens, then the overflow use will go to nearby Forest Service wilderness areas.

It appears that additional National Forest wilderness will be needed to support the increased visitor demand for primitive recreation. Other agency wilderness cannot support the much increased land based wilderness use and their major proposed additions will not relieve the pressure to hike into National Forest wilderness. All proposed additions of the other agencies are lands more suitable for water based primitive recreation or are already at their peak capacity. Wilderness in Smoky Mountains National Park and Cumberland Gap National Park are already at their peak capacity.

**Proposed Wilderness Acres by  
Sub-Regions and Agencies**

<u>Sub-Region</u>	<u>Forest Service</u>	<u>Park</u>	<u>Fish and Wildlife</u>	<u>Total</u>
	<u>RARE II</u>	<u>Service</u>	<u>Service</u>	
	<u>W</u>	<u>FP</u>		
Ozark Highlands	38,439	41,358	0	79,797
Mountains	160,388	256,717	518,280	935,385
Piedmont	5,759	9,480	0	15,239
South Central				
Coastal Plain	103,584	21,794	0	125,378
Southeastern				
Coastal Plain	14,979	31,706	48,801	108,024
Total	361,055	323,149	567,081	1,263,823

Nationally, National Forest Wilderness Recreation visitor use averages 0.5 visitor days per acre as compared to 1.4 visitor days (VDS) in the Southern Region. Use per acre varies from 0.1 VDS to 4.0 VDS per acre on the 12 Regional wilderness areas. Use has been restricted on Linville Gorge Wilderness to 4.0 VDS per acre per year. The regional average for a recreation use carrying capacity is estimated at 3.0 as compared to 0.5 on a national average. This carrying capacity is only an estimate based on past use and will be adjusted as additional supportive information is produced. More intensive and better management will alter the carrying capacity up or down. The 3.0 VDS/acres will be used for planning and making projections in this document.

The Forest Service proposed through the Roadless Area Review and Evaluation process (RARE II), 56 additional wilderness areas totaling 323,149 acres and identified another 53 areas (361,056 acres) needing further study. As of 8/1/80 legislative action was being taken on 30 of these areas.

#### Conclusion

Even though other agencies may allocate additional lands to wilderness, national forest lands will have to support the majority of increased demands. With a 4% increase in recreation use in wilderness, the recreation carrying capacity of national forest wilderness will be exceeded in about 10 years. Environmental conditions such as fast vegetative recovery rates make it possible for wilderness in this region to support more use per acre than wilderness in dryer climates. Management techniques can prevent overuse and may even increase carrying capacities.

#### B. Sub- Regional

The heaviest recreation use of wilderness is located in the Mountain Sub-Region, close to large metropolitan access and population constraints. Weslem Williams' research has shown that most wilderness visits originate in the same state but ecosystem conditions may be different due to the small size of states and easy highway access. More research is needed on this point.

## Recreation use in Wilderness Areas by Years and Sub-Regions

### Visitor Day Use

Sub-Region	Units	Acres	1978	1979	VDS/AC	% increased
Ozark Highlands	2	24,886	5,850	7,550	0.30	+29
Mountains	9	101,105	189,900	206,600	2.00	+9
Piedmont	0	0	0	0	0	0
S.C. Coastal Plain	0	0	0	0	0	0
S.E. Coastal Plain	<u>1</u>	<u>23,432</u>	<u>1,800</u>	<u>1,700</u>	<u>0.1</u>	<u>-6</u>
TOTALS	12	149,423	197,550	215,850	1.4	9%

Based on an average 4% annual increase in recreation use of wilderness in the Mountain Sub-Region more wilderness acreage will be needed in about 10 years. Recreation use trends in the other sub-regions having wilderness are not projected to exceed carrying capacities for many years. The addition of new wilderness access in the Piedmont and S.C. Coastal Plain could change this analysis.

### II. The Forest Service Role in Supply and Demand

The primary role of the Forest Service is to provide an enduring wilderness resource by assuring that suitable lands are made available and are designated as wilderness.

The Forest Service responded to the demand for additional wilderness by through the RARE II inventory and allocation process. This process recommended 323,149 acres in 56 areas be added to the wilderness system in the South and placed 361,055 acres in 53 areas in a "further planning" category. These "further planning" areas will be considered for all uses, including wilderness, during the development of land and resource management plans.

The Forest Service will manage wilderness lands in an unimpaired condition for future use and enjoyment as wilderness. Management practices that are responsive to the wilderness resource may increase or decrease the recreation carrying capacity of wilderness.

The supply of wilderness can be increased by adding to the wilderness system and possibly improve the capacity of what is available through effective management.

The demand for wilderness may be stabilized or shifted by providing and advertising other lands suitable for recreation needs that can be satisfied outside of wilderness (semi-primitive environments).

### III. Potential for Resolution

There are various means of balancing the wilderness supply and demand issue. They may be used individually or in combination. The available solutions are; (1) increase the wilderness acres on national forest or other federal or state lands; (2) manage nonwilderness lands so they will provide an area to shift some of the wilderness demand to; (3) purchase additional roadless lands; (4) lower wilderness standards; (5) provide something less than true wilderness conditions for those who need less and; (6) have the private sector allocate roadless lands.

As a feasible solution, Congress will most likely allocate the lands that the Forest Service has recommended for wilderness and include some of the "further planning areas to provide for additional needs. The Forest Service and other wildland agencies will provide opportunities for a primitive recreation experience on lands other than wilderness for those who desire it.

### IV. Potential for Forest Service Resolution

Region-wide, areas recommended for wilderness and further planning through RARE II, will meet the RPA acreage goals for wilderness. This is the recommended method of meeting the Region's supply of wilderness. Areas recommended for wilderness only will meet the goals by 1985, but will fall short after that.

The demand for recreation use of wilderness, expressed in recreation visitor days and as projected in RPA, can be met until the year 2010 at the high bound level (longer at low bound) if recreation carrying capacity estimates are correct and adequate funding is provided for proper management. Projected funding for RPA goals during the next 5 years is inadequate at both low and high bound levels. An estimated increase in management funds of at least 50 percent is needed at the high bound levels.

The demand for wilderness for all purposes (ecological, scientific, etc. not just recreation use), expressed in acreage figures and as projected by RPA, cannot be met unless an additional 361,055 acres recommended through RARE II are classified by 1985.

### Sub-Regional

Sub-Regionally, allocation to wilderness of all of the RARE II wilderness and further planning areas will meet the goals in all 5 sub-regions at the low bound RPA goal and in all areas in the high bound goal except the piedmont region. The goal will be met until the 1986-1990 period, after that, more acreage will be needed.

Assuming carrying capacity estimates are correct, the high and low bound goals for recreation use can be met through the 50 year RPA period in the Ozark Highlands and mountains sub-regions on the present wilderness base. More acreage is needed in the areas, however, to satisfy other wilderness demand. In the South Coastal Plain sub-regions the low bound recreation use goal will be met and the high will be meet only until 2020. The Piedmont and Southeastern Coastal Plain Regions have no classified wilderness so they will not meet the recreation use goals unless there are wilderness allocations. The use goals at the high and low bounds will be met in these two areas if all RARE II recommended "wilderness" and "further planning" areas are allocated.

### V. Anticipated Resolution

#### Policy:

Wilderness management and facets of the "wilderness issue" have been addressed in the RARE II and RPA Program. Resolution in the Regional Plan will take place through distribution of existing targets. No change in management direction from the Regional level is anticipated during implementation of the Plan. For these reasons wilderness is not considered as a Regional issue on the planning context.

Projected RPA to develop  
Biller City and the area around  
the off site areas.

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Progress Report  
Accomplished As Compared To  
Lands Available

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900

800

700

600

500

400

300

200

100

35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130

Present

34224 WTP + W

1000 Board - Zone 4 W - G

CIASTEFED WITDRAWS

High Board

(m) 2020

Objectives

RPA Projected Wilderness Use  
by Sub-Regions and Years in Thousands RVD's

Sub-R		82	83	84	85	86-90	91-2000	01-10	11-20	21-30
O.H.	H	40	42	48	57	62	64	65	69	73
	L	37	39	41	43	45	50	53	55	57
Mtns.	H	176	182	199	228	246	248	259	274	294
	L	166	166	173	179	184	201	212	221	236
Piedmont	H	8	8	9	10	11	11	11	12	13
	L	7	7	7	7	7	9	7	10	10
SE Coast	H	50	51	59	71	76	78	82	86	95
	L	46	47	48	49	52	58	61	64	68
SC Coast	H	36	37	44	54	60	60	64	70	76
	L	34	37	38	41	42	49	53	56	59
Totals	H	310	320	359	420	455	461	481	511	551
	L	283	296	307	319	330	367	386	406	430

RPA Projected Wilderness Acres  
by Sub-Regions in Thousands of Acres

Sub-R		82	83	84	85	86-90	91-2000	01-10	11-20	21-30
O.H.	H	65	65	78	78	91	91	91	91	91
	L	65	65	65	65	65	65	65	65	65
Mtns.	H	284	284	340	340	397	397	397	297	397
	L	284	284	293	293	293	293	293	293	293
Piedmont	H	12	12	15	15	17	17	17	17	17
	L	12	12	12	12	12	12	12	12	12
SE Coast	H	81	81	98	98	114	114	114	114	114
	L	81	81	81	81	81	81	81	81	81
SC Coast	H	34	34	40	40	46	46	46	46	46
	L	34	34	34	34	34	34	34	34	34
Totals	H	476	476	571	571	665	665	665	665	665
	L	476	476	485	485	485	485	485	485	485



R0000 899360



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